

Installation Manual

(Version 14)

Platinum 3 & Platinum 3B

(For High Traffic Doors with Antenna System & RF Tags)

PLATINUM 3



PLATINUM 3B



Wander Control Systems, Inc.

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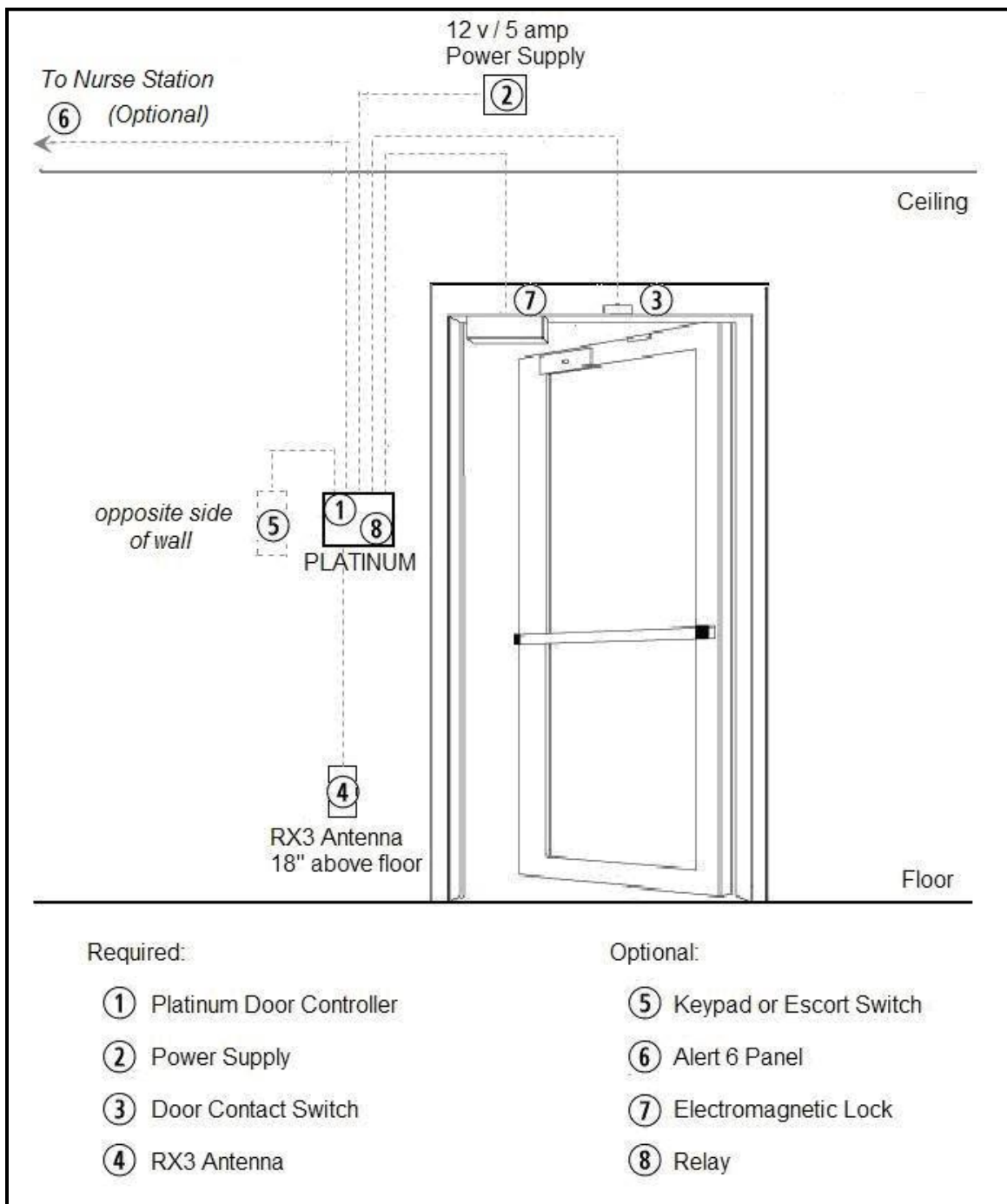
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Platinum 3 & Platinum 3B Installation Manual (Version 14)

Installation

Figure 1. Platinum 3 Installation Diagram



Recommendations



PLEASE consult local codes for wire requirements and other regulations.

Wire Sizes

Platinum 3 Control Unit to:

Power Supply	18 - 2 AWG
Door Contact Switch	22 - 2 AWG
Receive Antenna(s)	22 - 2 AWG
KP-1 or KP-2	18 - 4 AWG
EscortR	18 - 2 AWG
Alert 6	22 - 2 AWG
Magnetic Lock(s)	18 - 2 AWG

Table 1. Wire Sizes for Installation

Tools

Screw Drivers (Flat & Phillips)
 Drill, Drill Bits
 Wire Cutters

Wire Strippers
 Volt Meter

Once you have evaluated your Wander Control Systems, Inc. equipment components and recommendations for wire and tools, it is time to make a decision.

For installations in new construction locations or where wire will be run in the ceilings or walls and will not be exposed, it may be best to measure and run the wire before mounting the equipment on the wall.

For installations in existing locations with drop ceilings and where products such as Wiremold or Raceway are planned to be used to conceal wire, it may be more beneficial to mount the equipment on the walls and then run the wires.

Mounting

(Refer to Figure 1. Platinum 3 Installation Diagram for assistance.)

NOTE: The Platinum 3 has a plastic backbox, and the Platinum 3B has a steel backbox.

Control Unit

- 1) The control unit is shipped with a surface mount plastic enclosure. Choose a place to mount the Platinum 3 control unit within 3 - 4 feet of the protected door or area at 4' - 4.5' above the floor (make sure to allow access to the control unit when a caregiver is pushing a resident in a wheelchair up to and near the door).
- 2) Punch-out the desired access hole at the back of the surface mount box to use for wiring.
- 3) Mark a precise location for mounting and drill through drywall or other surface. (If necessary, wires may be run through a Wiremold channel mounted vertically, but an access hole must be drilled through the top of the surface mount box.)
- 4) Screw surface mount box (backbox) to the wall. (The backbox must be securely attached to the wall because residents may try to tamper with or remove the control unit).
- 5) After the backbox has been securely fastened to the wall you may pull the wires from the box out to your external connections.
- 6) Once the backbox is securely mounted and all wires are pulled you may proceed to wire the control unit to the wires that you have brought into the backbox.

Power Supply



PLEASE consult local codes on whether or not a dedicated circuit is needed.

The 12 volt low voltage power supply should be placed in a location that has a fairly ambient temperature. The power supply will operate safely as long as the temperature is between 45 - 85 degrees Fahrenheit. If you are using 18 AWG or larger wire you may place the supply up to 50' away from the control unit. Make sure that the power supply is not wired into a switched 110 volt outlet.

- 1) A standard 110V grounded outlet should be provided above the ceiling (if possible) within 10 feet of the door to bring facility's electrical power to the power supply of the control unit.

- 2) Securely attach power supply above in an accessible area within 10 feet of the control unit.
- 3) Drop 18 AWG 2 conductor wire through the wall (or Wiremold channel) to the control unit.
- 4) Connect to the back of the control unit at J5 pins 1 & 2 (pin 1 is positive +).
- 5) Connect to the power supply ~ + (red) and – (black)



CAREFUL – Do not reverse polarity by reversing wiring connection voltage on J5 Pins 1 & 2.

Door Contacts

The standard door contact switch shipped with our door controllers, part # DS-1, is a surface mount style switch. The complete part consists of a switch (which attaches to the door frame) and a magnet (which attaches to the door). Plastic spacers are supplied with each DS-1 to mount between the magnet and the metal door and between the switch and the metal frame for optimum performance. If these spacers are not used, there is a chance that the door controller may show DC ~ *Door Closed* ~ even when the door is open. These spacers are not needed when installed on wooden door frames. Hidden door contact switches are available by special order.

When mounting the magnet to the door, make sure that the gap of the switch is less than 1/4". Use one set of door contacts for a single door and two sets of contacts for a double door (one per door).

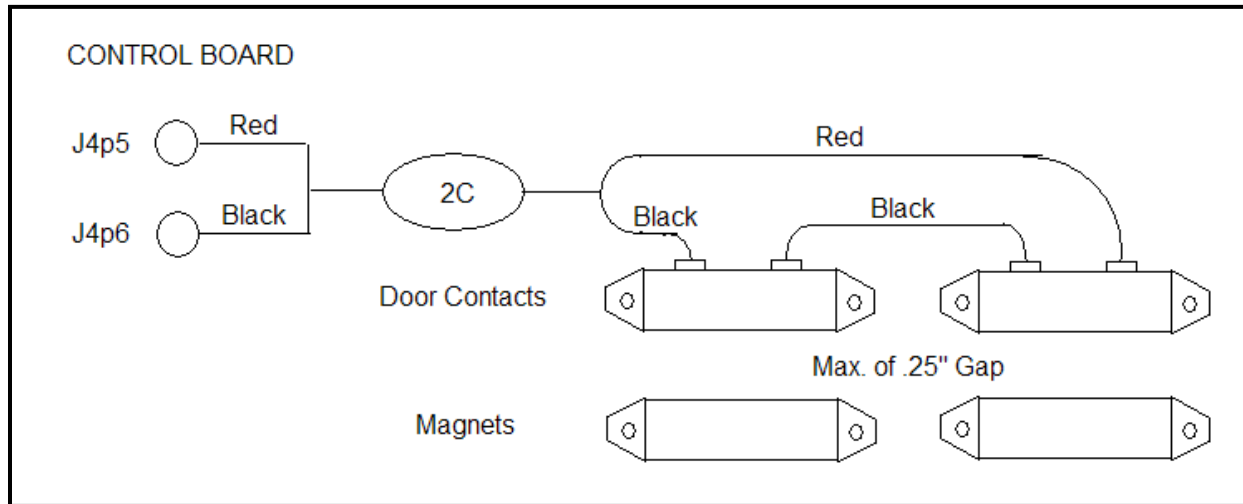


Doors MUST close and seal properly before wander equipment is installed.

- 1) Mark and drill holes in the door frame away from the hinged side of the door using the actual switch (with two screw terminals) as a template.
- 2) Drill one extra hole above the switch screw terminals as an access for the wire.
- 3) Mount the door switch to the frame above the door using the screws provided.
- 4) Mark and drill holes in the top of the door for the contact magnet. Close door to make sure there is no more than a 1/4" gap between the switch and the contact magnet.

- 5) Run 22 AWG 2 conductor wire through the access hole and connect to the switch from the Platinum 3 Controller J4 pin5 and J4 pin6 as shown below. If there is more than one switch, connect the switches in series.

Figure 2. Wiring Diagram for Door Contacts



Receive Antenna

DO NOT MOUNT THE ANTENNA/ANTENNAS OVER A METAL BEAM OR METAL SUPPORT because it may alter the normal receiving or “pick up” characteristics of the antenna.

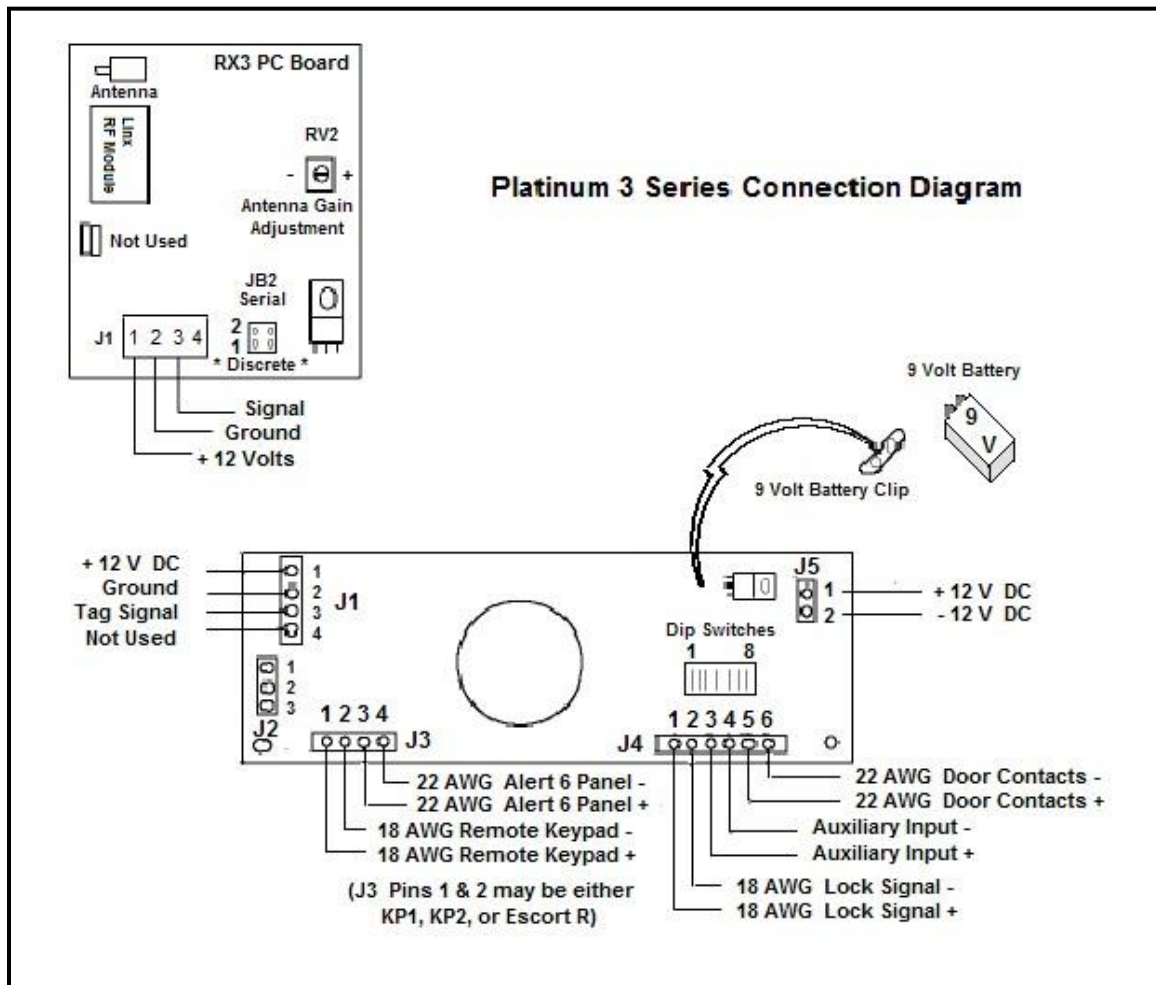
- 1) Open the top of the antenna by removing the four screws and pulling the top off of the antenna.
- 2) Mount the antenna next to the door to be protected at approximately 18” above the floor and opposite the hinged side of the door if possible. (Refer to Figure 1 Platinum 3 Installation Diagram.) A second RX3 Antenna is recommended for a double door or hallway over 4 feet wide.
- 3) Connect the wires.

From Controller	To Antenna
J1 pin1	J1 pin1
J1 pin2	J1 pin2
J1 pin3	J1 pin3

Table 2. Connection of Antenna Wires

Hardware

Figure 3. Platinum 3 Series Connection Diagram



Dip Switch Settings

The dip switches are located on the back of the control unit and are labeled 1 – 8. Only five of the switches are currently used.

- Switch 1 – Off
 - On – Factory setting ON with a Berg jumper across the 2 pins of JB2 Serial 2 on the RX3 PC Board
- Switch 2 – Off – the STAR (*) key is used to reset alarm and disable lock – this setting provides less security
 - On – the STAR (*) key is disabled – this setting provides more security
- Switch 3 – Off – 9000 codes function normally and reprogramming allowed
 - On – 9000 codes function normally, NO reprogramming allowed

- Switch 4 – Off – Is **negative** polarity – for use with
- A) Keypads other than Wander Control Systems' brand custom designed KP-1 or KP-2 keypads.
 - B) EscortR push button from Wander Control Systems
 - C) Other brand push buttons
 - D) No keypad or push button connections
- On – Is **positive** polarity – for use with
Wander Control Systems' designed KP-1 or KP-2 keypads ONLY
- Switch 5 – Off – **STANDARD** features function
On – **ENHANCED** features function



After changing dip switch settings, remove all power from the controller for 20 seconds and then power up.

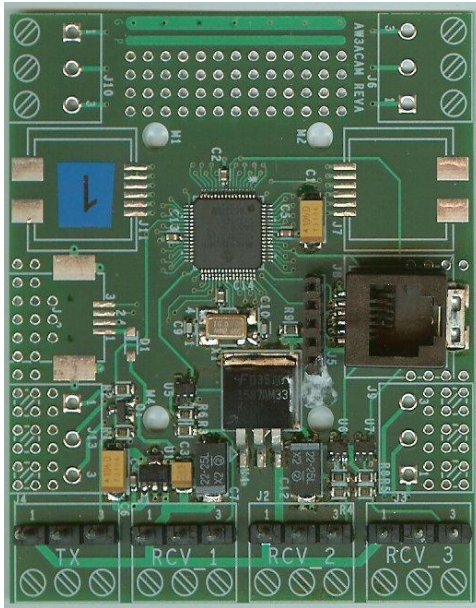
Set-Up Connections

- J1 – Connection to the Platinum 3 Antenna Box
- Pin 1 – 12 VDC power to the antenna
 - Pin 2 – Ground signal to the antenna
 - Pin 3 – Tag information from the antenna
 - Pin 4 – not used
- J2 – 485 Communication – **Special Accessories Only**
(Contact Wander Control Systems Tech Support)
- Pin 1 – 485 receive
 - Pin 2 – 485 transmit
 - Pin 3 – signal ground
- J3 – Remote EscortR, KP-1, KP-2 & Remote Alarm Signal - Alert 6
- Pin 1 - Remote Escort +
 - Pin 2 - Remote Escort -
 - Pin 3 - Remote Alarm +
 - Pin 4 - Remote Alarm -
- J4 – Mag Lock Signal, 9000 Key Lockout, Door Contact Switch
- Pin 1 - Lock Signal +
 - Pin 2 - Lock Signal -
 - Pin 3 – 9000 code lockout (auxiliary input +)
 - Pin 4 – 9000 code lockout (auxiliary input -)
 - Pin 5 - Door Contacts +
 - Pin 6 - Door Contacts –
- J5 – Power Supply Connection (12VDC)
- Pin 1 - (+) 12VDC
 - Pin 2 - (-) 12VDC (ground)



CAM3 Board

(For Platinum 3 Multiple Antenna Installations)



Purpose

The CAM3 board is to be used with our Platinum 3 door controllers to help multiple antennas process data transmitted from our Series 3 RF tags.

Directions for Installation

- 1) Use 22 gauge pvc coated stranded wire (or similar)
- 2) The numbered pins in TX connect to the like numbered pins on the Platinum 3 Controller (i.e., TX – pin 1 connects to J1 - pin 1 on the Platinum 3)
- 3) The numbered pins in RCV 1, RCV 2, and RCV 3 connect to the like numbered pins on each respective antenna (see example below)

RCV 1 – pin 1 connects to the first antenna pin 1

RCV 2 – pin 1 connects to the second antenna pin 1

RCV 1 – pin 2 connects to the first antenna pin 2

RCV 2 – pin 2 connects to the second antenna pin 2

Note: When using multiple antennas for the Platinum system, the RX3 pc board berg connector J2, position 2, should have a shorting block across the two pins.

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RF Tags

Wander Control Systems Platinum 3 tags are encased in a watertight plastic housing. As a result, normal activities and therapeutic bathing procedures do not damage the tag, and cleaning is occasional soaking in alcohol for 5 minutes. Each tag is assigned a unique identification number.

Attaching the Tag

- 1) Slide the band through the tabs of the tag from the bottom to the top.
- 2) Place the tag on the top of the wanderer's wrist or around his/her ankle. Bring the band around so that the holes meet the snap.
- 3) Adjust the band to a comfortable position for the resident. Take care that band is snug enough not to slip off.
- 4) Select the proper hole and slip it down the post of the snap. Bring the excess band back over allowing the next hole to also slip down on the post of the snap assembly.
- 5) Close the snap by bending the flap over and squeezing the two components together.
- 6) Cut off any excess band with scissors.

Removing the Tag

To remove the tag, simply cut the band with scissors and slide the tag off of the band.

Testing the Tag

A resident tag tester is available for purchase from Wander Control Systems, Inc. The tag tester is a hand held unit that is used to validate RF-3 tags. Each tag should be tested prior to placing on a resident. Tags should also be tested a minimum of once a day by nursing or staff (at the start of every shift, or after every meal) to ensure that the tags are functioning properly.

NOTE: RESIDENT TAGS MUST BE REMOVED PRIOR TO MRI, CAT SCAN, OR X-RAY. FAILURE OF TAGS EXPOSED TO THESE PROCEDURES IS NOT COVERED UNDER WARRANTY.



Setting Range of RX3 Antenna (General Instructions)

When setting the range of the RX3 antenna, make sure there are no RF Tags anywhere around the door you are setting up. Even if the RF tags are 100' away on a table top this will affect the setting of the system. **MAKE SURE ALL TAGS ARE IN A METAL BOX, COOKIE TIN, OR WRAPPED IN ALUMINUM FOIL WHEN NOT IN USE!**

Take **ONE** tag out when you are ready to adjust the range and follow the instructions below. Look at the back of the tag to find the RF Tag ID#. The ID bit will be a 3 digit number.

When setting up the system, keep watch on the ID bit on the LCD display and make certain the ID# is the tag you are working with. **The facility must be responsible for keeping count of where all the tags are located when the system is in operation.** If a tag is lost or misplaced and close to a protected door, the Controller will detect the tag and cause the door to go into alarm condition if the door is opened. If lost tags are causing a problem, call the WCSI Sales Department about obtaining an eZ Track'N tag and resident locating unit.

When setting up the range of the Platinum Controller and RX3 Antenna, the Door Contact Switch should be connected and the door closed. The Controller LCD Display should display "DC" (Door Closed). If "DO" (Door Open) is displayed and a tag is in the area of the controller, the system will alarm. At this point the controller must be reset to stop the alarm.

The RX3 Antenna system has a gain adjustment "RV2" on the circuit board. You will need a small screw driver to adjust the range sensitivity.

Place the RF Tag on your body in the same area that the resident will wear the RF Tag using a band. DO NOT HOLD THE TAG IN THE PALM OF YOUR HAND TO SET UP THE RX3 RECEIVE BOARD! Doing this will give you inconsistency in the tag pick-up range.

If you need a fairly tight detection area on a double door over 4' wide, we recommend that you purchase a second antenna. Security is more efficient with each side of the door covered by an antenna which alleviates the need to turn up the sensitivity of a single antenna. Sometimes adjusting the sensitivity on a single antenna will cause it to pick up tags too far away or in nearby rooms.

Helpful Hint: **Programming Code 9029** – Test mode

In this mode the Platinum unit will produce a short beep every time a tag is detected. This is very useful when setting up the receive antenna.

You don't need to see the red LED in order to set the range on the RX3 Antenna. This mode is good for checking the long range detect area.

Note: to leave this mode simply enter 9029 again (9029 toggles mode)



In rare instances where tag reception is unsatisfactory, call tech support to discuss options on dip switch #1 and JB2.

Setting Range of RX3 Antenna (Step-by-Step Instructions)

Single Antenna Location



Make sure all RF Tags are out of the area hundreds of feet away, secured in a metal box, or wrapped in aluminum foil.

- 1) Attach an RF tag to your wrist with wristband just like the residents would wear it.
- 2) Notice on the receive board there are two lights, a green LED “power” and a red LED “RF detect” light. This red LED will blink on and off at about one blink per second. This indicates that the receive board is picking up the RF tag that you are testing.
- 3) Hold your arm with the RF tag by your side and away from your body.
- 4) Starting at the far end of your proposed active field, walk toward the antenna until the red LED starts blinking.
- 5) If the receive range is too close and you want the range farther away from the antenna, adjust the potentiometer (or “pot”) clockwise to increase the gain of the antenna. This will allow a greater active range away from the antenna. Always turn the “pot” gently with a small blade screwdriver. Do not turn the “pot” past the stop setting.
- 6) If the range is too far away from the receive antenna, adjust the “pot” counter-clockwise $\frac{1}{4}$ of a turn or so, and check the range again. Continue this procedure until the range is what you want.

For instance, if the range is set to 8’ then move slowly to the left of the receive antenna watching the red LED blink. Move parallel to the receive antenna keeping about the same distance from the antenna. Make sure you have the coverage you want. Then repeat this procedure by moving off to the right. If the coverage is a little less than desirable to the left or right, increase the gain by adjusting the “pot” clockwise slightly and then retest.

- 7) Your goal is to have the active field cover the entire plane of the opening with as little extra territory covered as possible.

It is always a good idea to have the gain turned up slightly for more sensitivity than to have it less sensitive than is needed.

Dual Antenna Location

When setting up Dual Antenna Locations, disconnect one of the antennas by pulling the plug off the PC Board which will power down the receiver board.



Make sure all RF Tags are out of the area hundreds of feet away, secured in a metal box, or wrapped in aluminum foil.

- 1) Attach an RF tag to your wrist with wristband just like the residents would wear it.
- 2) Notice on the receive board there are two lights, a green LED “power” and a red LED “RF detect” light. This red LED will blink on and off at about one blink per second. This indicates that the receive board is picking up the RF tag that you are testing.
- 3) Hold your wrist with the RF tag by your side and away from your body.
- 4) Starting at the far end of your proposed active field, walk toward the antenna until the red LED starts blinking.
- 5) If the receive range is too close and you want the range farther away from the antenna, adjust the potentiometer (or “pot”) clockwise to increase the gain of the antenna. This will allow a greater active range away from the antenna. Always turn the “pot” gently with a small blade screwdriver. Do not turn the “pot” past the stop setting.
- 6) If the range is too far away from the receive antenna, adjust the “pot” counter-clockwise one-quarter ($\frac{1}{4}$) of a turn, and check the range again. Continue this procedure until the range is what you want.

For instance, if the range is set to 8’ then move slowly to the left of the receive antenna watching the red LED blink. Move parallel to the receive antenna keeping about the same distance from the antenna. Make sure you have the coverage you want. Then repeat this procedure by moving off to the right. If the coverage is a little less than desirable to the left or right, increase the gain by adjusting the “pot” clockwise slightly and then retest.

- 7) Your goal is to have the active field cover the entire plane of the opening with as little extra territory covered as possible.

It is always a good idea to have the gain turned up slightly for more sensitivity than to have it less sensitive than is needed.

- 8) Disconnect the first antenna.
- 9) Plug the connector onto the second antenna which will power the antenna up.
- 10) Hold your arm with the RF tag by your side and away from your body.
- 11) Starting at the far end of your proposed active field, walk toward the antenna until the red LED starts blinking.
- 12) If the receive range is too close and you want the range farther away from the antenna, adjust the potentiometer (or “pot”) clockwise to increase the gain of the antenna. This will allow a greater active range away from the antenna. Always turn the “pot” gently with a small blade screwdriver. Do not turn the “pot” past the stop setting.
- 13) If the range is too far away from the receive antenna, adjust the “pot” counter-clockwise $\frac{1}{4}$ of a turn or so, and check the range again. Continue this procedure until the range is what you want.

For instance, if the range is set to 8' then move slowly to the left of the receive antenna watching the red LED blink. Move parallel to the receive antenna keeping about the same distance from the antenna. Make sure you have the coverage you want. Then repeat this procedure by moving off to the right. If the coverage is a little less than desirable to the left or right, increase the gain by adjusting the “pot” clockwise slightly and then retest.

- 14) Your goal is to have the active field cover the entire plane of the opening with as little extra territory as possible.

Wander Control Systems, Inc.

Warranty Statement

At Wander Control Systems, Inc.'s discretion, we agree to adjust, repair, or replace any products which are found to be defective due to manufacturing deficiencies or faulty components for the time frames indicated in the chart below – beginning with the date of invoice. Products damaged due to installation errors, user errors, or Acts of God are not covered under the warranty.

PRODUCT	TIME
WCSI Platinum 3 & Sentry	3 (three) years
WCSI Alert 6	3 (three) years
WCSI KP-1, KP-2, EscortR	1 (one) year
WCSI eZ Track'N	1 (one) year
WCSI Accessories	1 (one) year
WCSI RF Tags	Tag Program
Wristbands	Disposable item (please advise of any problems upon receipt of product)
Non-WCSI Manufactured Products for System Integration	Pass other manufacturer's warranty on to customer / end user

RF Tag Program

RF tags operate on battery power. This battery will discharge and ultimately fail over time. This is normal, so daily RF tag testing is recommended.

After your brand new Wander Control Systems RF tag has served its useful life, simply return the tag with an expired battery or other functional problem to our Service Center and we will completely recondition your tag: replacing the battery, the waterproof casing, and any other parts if necessary. We then reprogram your proper ID bit code and include a free standard wristband. Reconditioned RF tags cost ½ the price of a new tag plus standard Ground shipping charges. Our exclusive Forever Tags™ are replaced for free, so the only cost is the standard Ground shipping charges. RF tags that may possibly fail under normal use within 90 days of invoice are replaced at no charge.

Limitation of Liability

Our products are designed for use in reducing the risk of resident wandering, elopement and general egress and ingress notification. Products and accessories not manufactured by WCSI may be integrated into a wander system and sold by WCSI or third parties to provide other benefits and services to help prevent elopement and efficiently monitor general egress and ingress security through remote detection.

Extreme security applications and situations may require hardware components not available through WCSI.

Many factors may affect the function, performance, and active field of our electrical products. Some of these factors may include electrical interference, metal objects within the active field, placement of the receive antenna and/or RF tag, installation errors, and improper maintenance.

Wander Control Systems, Inc. (WCSI) does not guarantee that our products will detect 100% of wandering resident elopements or provide 100% security for unauthorized egress and ingress through a monitored door. The daily testing of RF tags and regular servicing of installed products is recommended to minimize problems detecting wanderers or general door security. WCSI products are designed and manufactured to assist in providing wanderer monitoring, elopement notification, and exit door security. At no time do WCSI products totally replace the need for human supervision and monitoring of residents, employees, and exit/entrance security.

Wander Control Systems, Inc.'s liability to our customer or end user is limited to:

- A. the repair or replacement of defective product, products, or materials supplied by WCSI during the warranty period as described in the WCSI warranty policy statement, or
- B. a refund of the purchase price of the product or products supplied by WCSI.

WCSI provides unlimited free technical support to all customers and/or all end users of our products through access to documentation on our website, electronic correspondence, and telephone support with our sales and tech support personnel. This technical support is provided by WCSI whether our products were purchased directly from WCSI or through an authorized dealer.

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