

# Commercial Rodent Repeller Installation Tips

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With a basic understanding of the behavior of the target pest (rodents) and how they are affected by the presence of intense high frequency sound (ultrasound) it is easier to determine where to place the Commercial Rodent Repellers for maximum positive effect.

## *Rats and Mice*

In North America the most common species of rats are *Rattus Rattus* (common rat) and *Rattus Norviegicus* (Norway roof rat). Norway rats are the ones we see on telephone wires and find in attics and are the most commonly found around shipping ports. Common rats and nearly all of the mouse species move on the ground.

Rodents are at the bottom of the food chain; virtually all predators eat them. For that reason they have developed diverse survival strategies and are very wary animals. The ability to hear and communicate in the ultrasonic range is one of these important survival strategies. Humans, pets and their common predators cannot hear ultrasonic sound.

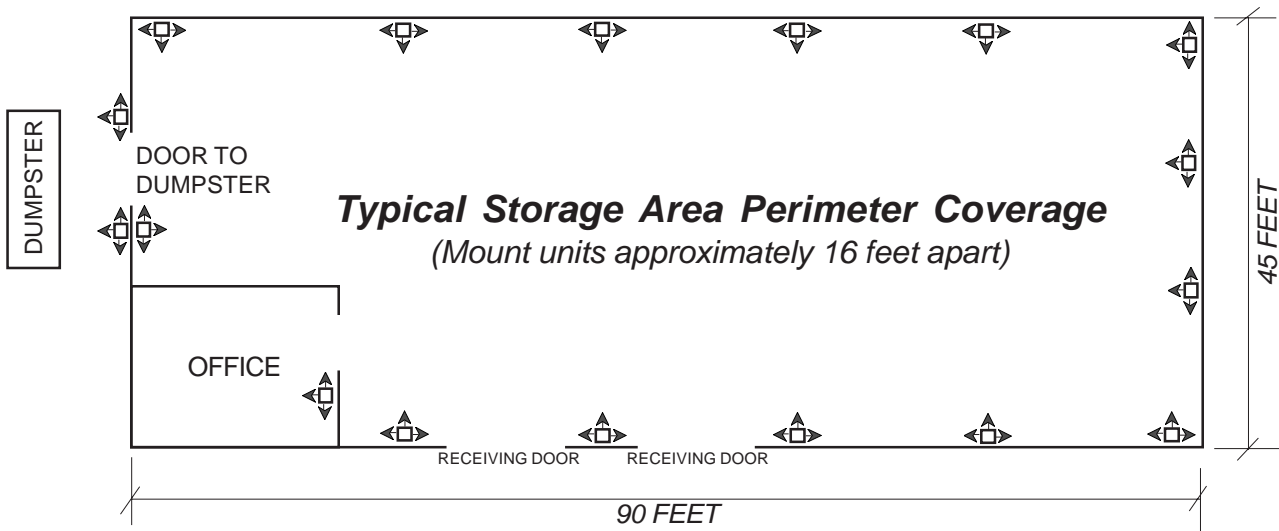
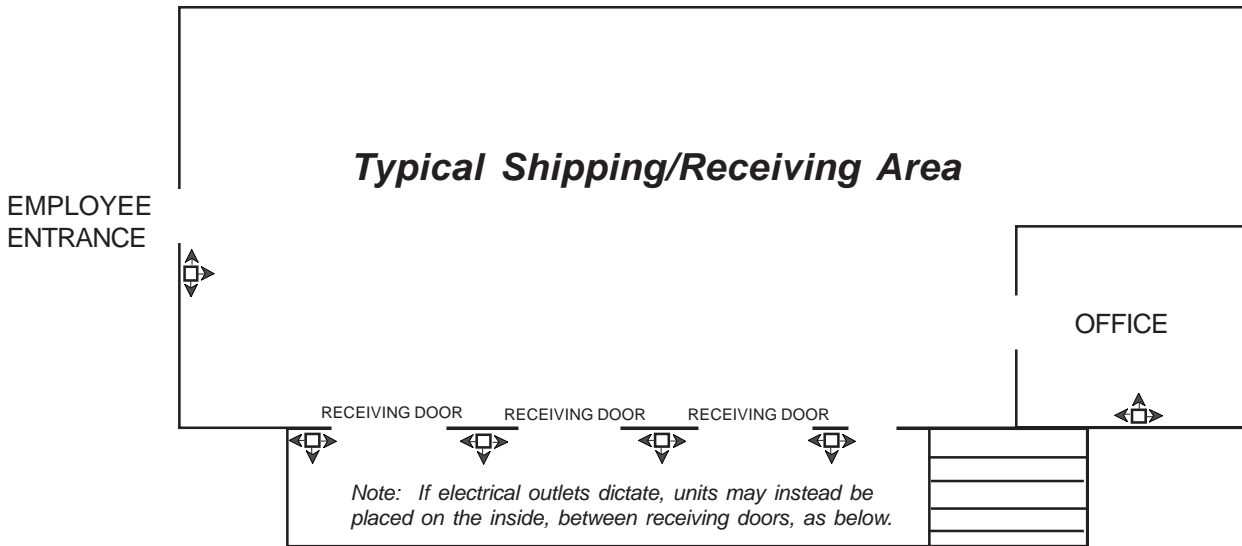
1. Rodents are nocturnal, most of their activity is at night and that is when they enter your buildings. It is also easier for them since the buildings are often free of people.
2. Rodents need food, water and shelter. In buildings, they find these in lunchrooms, food prep areas, food storage areas and bathrooms. They love to use paper for nest building.
3. Their bones are very soft. A mouse can easily move through a 1/4" crack. Most roll-up doors on loading docks have that (or larger) gaps. They use stairways for travel to upper floors and can easily jump 2 feet vertically in the air.
4. Rodents most often enter buildings through the same external doors that employees and products use. If the building has a basement, it will be a prime entry point.
5. Rodents prefer to travel on the ground and be next to a wall, where they feel safer.
6. Every space has a maximum carrying capacity (the number of rodents it can support). When you kill the ones inside, there are always new ones ready to enter. They will also increase their reproduction rate to return the colony to its carrying capacity. *The only way to gain control is to change the environment so rodents are uncomfortable within those areas.*

## *How Ultrasonic Sound Affects Rodents*

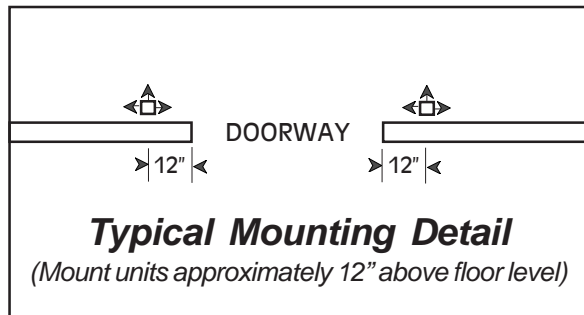
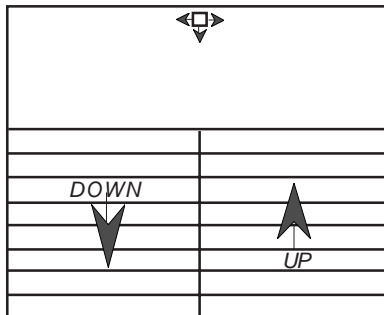
The 3 Speaker Rodent Repeller broadcasts a very complex and intense sound in the ultrasonic range. It is equivalent to a jackhammer operating next to you. The loud noise makes rodents very stressed...and a stressed rodent is a vulnerable rodent. Avoiding stress that increases their chance of being lunch is hard-wired into their little brains. We want to create stress for them when they first want to enter the protected space, so they can choose to avoid it.

The sound intensity drops off (attenuates) as distance from the speaker increases. At 1 foot, it's a jackhammer...at 16 feet, it's a passing semi truck. The jackhammer hurts their ears and is way more annoying. That's what we want to achieve.

# Rodent Repeller Installation Illustrations



## Typical Stairwell Application



## *A Few Realities of the Ultrasonic Technique*

Trying to blanket the entire interior of a building is very costly and not usually effective. Palletized, stacked and stored product creates sound shadows, where rodents can avoid the noise. As stated before: We want to stop them at the door. If the building's foundation integrity is porous (they can come in wherever they want), you may have to use a perimeter fortification application. Units are placed approximately 16 feet apart, as in the preceding diagram.

## *The 3 Speaker Rodent Repeller*

Because the Commercial Rodent Repeller uses three speakers, the unit broadcasts in a 180 degree arc, covering the walls on either side, as well as in front. The ultrasound produced is in a swept frequency, constantly changing between 32 and 62 kHz. This does not allow rodents to acclimate to the noise. The level of ultrasound is 112 dB, as measured one foot from the speaker, roughly three times as loud to a rodent as a residential unit.

## *Basic Principles of Installation*

1. Place units about a foot away from the opening and a foot off the floor, allowing the ultrasound to sweep across the doorway. For large rollup doors (over 12' wide) it is best to place a unit on both sides of the opening.
2. Installation using extension cords is OK, but conduit installations with boxes is better, safer, meets code and makes the units less vulnerable to being knocked out of place.
3. Be sure the circuit powering the units is live at night. Rodents are nocturnal, so the units must be on at night, and it is best to have them on all the time. Power draw is only 5 watts and the product is designed to have a 7 to 10 year useful life.
4. Loading Docks: A dock with multiple bays (if protected from rain and snow) is a good place to consider using units attached to the exterior wall facing out to cover the dock apron. Think of it as an ambush before they get to the pass.
5. Dumpsters: If they are used for food trash disposal they are high target areas for rodents. Usually they are conveniently placed close to a door. That door will be a primary entry point for rodents. Be sure to treat it.
6. Cafeterias and Employee Lunch Rooms: Rodent heaven. These rooms are usually small enough (1000 - 2000 sq. ft.) to efficiently cover with a few carefully placed units. Rule of thumb: One unit can deliver more than adequate noise to 500 sq. ft. Place one of the units to cover entry door(s).
7. Multi-story Buildings: If you can cure the problem on the ground floor, you can cure the building. If rodent problems have been experienced on higher floors, install units in elevator shaft base areas and in lower floor stairwells.

Using ultrasonic sound is an additional tool in your rodent control arsenal; it is not a magic bullet. Properly installed, these devices can dramatically reduce incursion by new rodents and increase trap catches on rodents currently in buildings. As the rodent problem is brought under control, your need for baiting and trapping should be greatly reduced. In commercial operations, there are always occasional rodents that ride in on pallets, bales, bags, material deliveries and trucks. We can't stop all of them with ultrasonic sound, but the presence of the sound in your facilities will get them caught and gone much faster.