DIGITAL RODENT REPELLENT SYSTEM

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INTRODUCTION:

Rodents and other creeping pests are a nuisance for the data centres. They may chew away at the data, voice or even power cables causing a major downtime. The entry of Rodents and other unwanted pests shall be controlled using non-chemical, nontoxic devices. The entire facility, including under access floor void and above false ceiling void should be protected from rodents. It is required to install a Digital Rodent Repellent System.

However periodic pest control can be done once in 3 months as a contingency measure to effectively fight the pest menace.

Digital Rodent Repellent System comprise of high frequency generator and Transducers. The transducers attached to it get these signals and convert it into high frequency sound waves in the range of 20 khz to 60 khz. These frequencies are well above the hearing range of humans, the sound waves pond the ear drum of rodent much like a loud siren.

The Generator uses a variable high frequency ultrasound so that rodents do not get accustomed, the rats will leave the area being protected immediately or it will take as long as four to six weeks before there is a significant reduction in infestation.

The transducers work silently, human can't hear them so there is no discomfort. Human can't hear ultrasound but for rodent its like a loud police blasting all 24/7. It will drive them crazy. They would start avoiding arrears protected by Ultrasound Rodent Repellent System.

THE SYSTEM:
Digital Rodent Repellent System is a system of one master controller and accessories that include 24 nos. of transducers and a pair of stands brackets. The master Controller is installed in the main control / server room and the transducers in the problematic area i.e. above and below false ceiling and below false flooring.

SALIENT FEATURES:

- CRMS (Centralized Reporting and Monitoring System) Software supporting:
- Scheduled or Real Time health status report generation for Systems Audit.
- Parameter configuration of the controller.
- Two-way Communication between the controller and the computer.
- RS / EIA 485 to RS / EIA 232C converter to transfer the controller data to the serial port of your computer.
- LCD display with on-board controls for changing the following parameters.

    - **WAVE SPEED:** Is an indicator for the number of frequency sweeps per minute. It can have a maximum value of 130 and a minimum value of 60. The incremental size 5 i.e.65, 70, 75 and so on.

- **WAVE DESITY**: Is an indicator for the number of divisions within frequency band. It can have a maximum value of 100 and a minimum value of 80.The incremental size is 10 i.e. 80, 90, and 100.

- **FREQUENCY BAND TIME**: Is an indicator of the time for which the controller would operate in a pre programmed frequency band. There are 3 bands available: Band A, Band B, and Band C. This parameter can have maximum value of 10 minute per band and a minimum value of 1 minute per band. Depending upon the time frame set for each band, the controller will switch the bands automatically.

- **MACHINE/CONTROLLER ID**: Is an indicator of the machine/ controller identification number. It can have any value within the range of 1 to 255.

- **FREQUENCY TESTING**: This feature will enable the user to test and verify the frequency that is being transmitted from the controller to the transducer. This feature would be particular useful during systems audit.

- **TRANSDUCER TESTING**: All the 24 transducers can be tested in an audible range one at a time by using this feature.
    - Provision for restoring all the parameters to the factory default setting.
    - Inbuilt RS/EIA-485 transmission up to 1.2 kms to BMS room.
    - Provision of a termination switch so that the controller data can be subsequently viewed by installing CRMS software.
    - Daisy chain protocol for interfacing 64 controllers (nodes).
    - Independent Driver for each transducer.
    - The transducer can cover up to 500 sq.feet of area above false ceiling, below false ceiling and below false flooring.
    - The transducer can be interfaced with the controller.
    - Frequency band of >20 kHz and<60 kHz is pre tuned for 100 different frequencies.

SPECIFICATIONS:

* Operating Frequency	: Above 20 KHZ and below 60 Khz.
* Sound output	: 80db to 110db at 1metre.
* Power output	: 1W per transducer.
* Sweeps per Minute	: 130(Configurable).
* Frequency Division	: 100(Configurable).
* Power Consumption	: 15 Watts Approximately
* Power Supply	: 230V AC/ 50Hz 14 Volts DC
* Dimensions	: 270(W) x 100(H) x 320(D)mm
* Weight	: 6.5 Kgs Approx.
* Mounting	: Wall / Table Mounting

TRANSDUCERS:

- Each transducer covers an open area of 500 Sq feet where the average height of the ceiling is 12 feet. Even when installed in the false ceiling or false floorings it will cover an area of 500 sq. feet. The same is possible because of the transducer's streaming effect design.
- Each transducer occupies a maximum space of 15 cubic.inches and aesthetically designed to match the décor.
- Being monopolar in nature. They can be installed in any sensitive area with zero risk of sparking.
- The transducers can withstand high temperatures in the false ceilings and low temperatures in cold storages and air locks.
- The transducers do not need a power connection.
- The transducers can be tested on an audible range independently, by selecting the Transducer testing menu from the LCD panel.

STANDS AND BRACKETS:

- Power coated Aluminum accessory for mounting of the master controller.

CABLES:

- 2core flexible (14/40) SWG specially coated multistrand . CAT5 wires for connectivity between the transducers and the controller.

DOCUMENTATION

The Alarm contractor, upon completion of the commissioning activity, shall hand over the system to the customer.

At the time of hand over, the contractor shall provide the customer with the following documentation:

1. Copy of detailed report
2. Component and equipment list
3. Product description sheets
4. System design drawing(s)
6. System schematic diagram(s)
7. System operating manuals

HANDOVER

Prior to final acceptance, the installing contractor shall provide complete operation and maintenance instruction manuals to the owner. All aspects of system operation and maintenance shall be detailed, including wiring diagrams of all circuits, a written description of the system design, sequence of operation and drawing(s), illustrating control logic and equipment used in the system. Checklists and procedures for emergency situations, maintenance operations and procedures shall be included in the manual.

TRAINING

General

The contractor shall provide the customer with details of the training required by personnel to operate and maintain the Digital Rodent Repellent System.

The Contractor and the customer shall jointly agree the number of staff to attend the training courses.