

## Varna Suraksha ZX20

Varna Suraksha Rodent Repellers - ZX20 Master Consoles are high frequency signal generators. These signals are fed to the transducers which in turn convert them into high frequency ultrasonic sound waves (well above the 20 KHz frequency which is the upper limit of the hearing range of humans). The transducers emit intensive sound waves at high decibels (sound pressure) that are audible and painful to rodents but are inaudible (complete silence to humans) and harmless to humans. The rodents usually leave the area being protected by the ultrasound waves immediately and at other times it may take as long as 4 to 6 weeks before there is significant reduction in rodent infestation.

### Features of the System:

#### Master Console

An electronic System equipped with 3-pin power cord to be connected to 5 Amp electrical plug point and SWITCHED ON round the clock. The Master console should be installed in safe room and fixed to the stand and brackets provided.

Specifications:	
Power Supply	220V AC Mains Outlet / 50 HZ Frequency
Operating Frequency	Above 20 KHz
No. of Transducers supported	20
Power Output	800 mW Transducer
Power Comsumptions	20 Watts Approximately
Sound Output	80 - 110 dB (Not Audible to Humans)
Master Console	2415 Grams



Weight	2710 Grams
Master Console Size	Metal - 21 x 20 x 11 cm

## Transducers

Each Transducer can protect upto 300 Sq Ft. in a normal floor, 150 Sq Ft. in false ceiling and false flooring against rats. If there are any obstructions, partitions, sound absorbing material within the room, the area covered will be considerably less, additional transducers has to be installed.

- Does not require power supply, they are connected to Master console.
- Can be installed in sensitive areas also, since there are no electricity hazards.
- Can withstand high and low temperature
- Can be sound tested with help of testing knob provided in the Master console.



## How to install Transducers for Effective results?

- Identify and install in enclosed areas where you have rat menace.
- Install transducers within the false ceiling, normal open room and false flooring if any.
- Face the transducers to solid surfaces like wall or floors for maximum bouncing of sound waves. Do not face the transducers to an open window or door, the sound will escape. Please go through the example chart below to get an idea about different surfaces ultrasonic waves bouncing effect when you are installing the transducers.

### Ultrasonic Wave Reflection Chart (Approx.) - More the reflection better the results

Metal Surface or Glass Surface – Upto 100 %

Concrete Walls – 80 to 90%

Wooden Surface – 60 to 70%

Gunny bags & corrugate boxes – less than 10%

## Effects of Ultrasound Repeller on Rats –

- The high sound pressure and multiple frequencies create painful effect on rat's ear drums and make them unbearable.
- Damages their nervous system if they try to resist, and become slow-moving.

- Creates adverse effect on their reproduction activities and helps to control their population.
- Their eating appetite totally gets affected with continuous irritation of ultrasonic waves.
- Finally, they leave the area after some initial resistance.

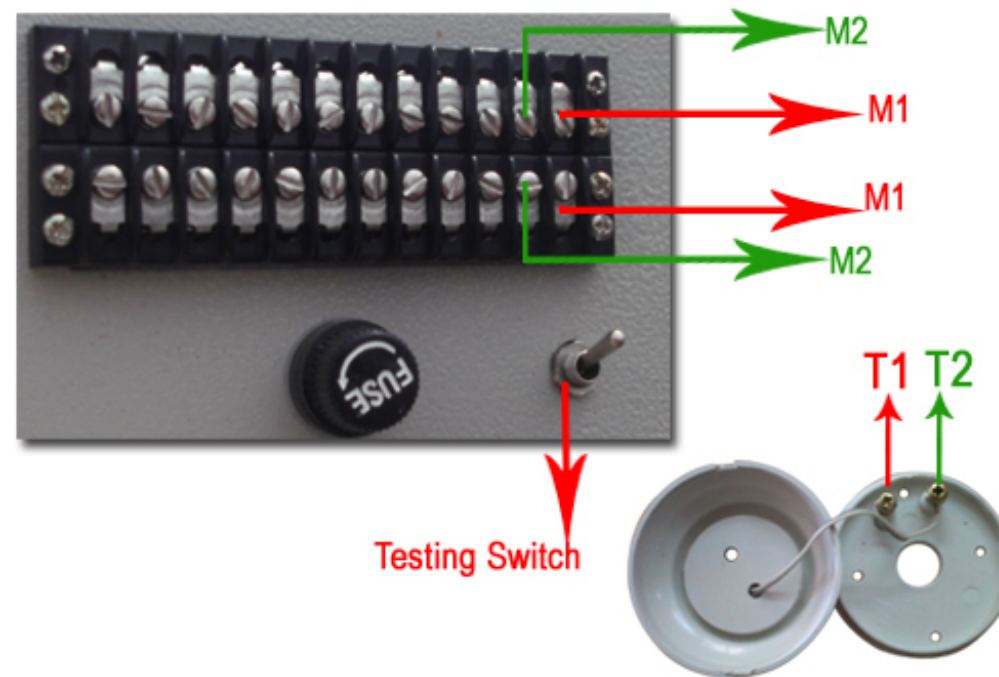
### Final Result -

Residing rats will move out of the ultrasonic protected area in search of new location where there is no ultrasonic sound. It may take 1 week to 4 weeks to see complete results. And also, other territory rats will not enter to your ultrasonic protected areas since they will find this place hostile.

**Please Note:** Due to continuous sound pressure, some rats may become violent and move around openly. Please make sure to leave one opening for rats to escape or glue trap laid if all the openings are covered.

### How to Connect Transducers with wires between Main Master Console & Transducers

#### MAIN MASTER - BACK PANEL



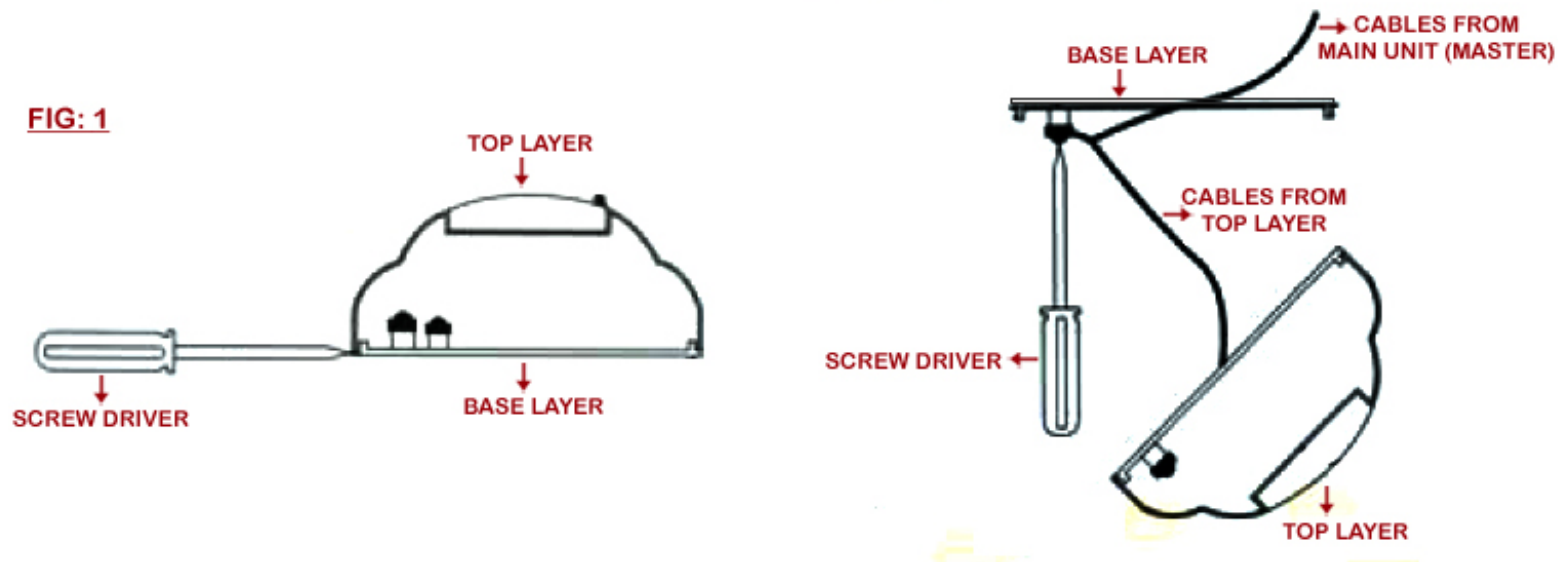
1. Connect first transducer **T1** & **T2** to the pair **M1** & **M1** and place the Transducer beyond 10 feet (maximum 15 feet) from the Main Master console.
2. Later, connect second transducer **T1** & **T2** to the pair **M2** & **M2** and place the Transducer beyond 10 feet (maximum 15 feet) from the other transducer.

3. In similar way, you can connect upto 12 transducers to the remaining pairs. And all the transducers can be tested by switching ON the "Testing Switch " in the main master console. You will hear beeping sound when it is ON. If you are able to hear the sound, the machine is in working condition.

**Please Note:**

- All transducers are identical, you can mix any transducers and connect.
- The red light (LED) will blink to indicate that the unit is working.
- Leave the system ON 24 hours a day for continuous protection.
- Within 2-3 weeks you can notice the reduction in rodent activity, if not, you will have to install additional units. (Please note: Usually, the type of structure, contents and partitions may limit the area of effectiveness, so please make sure to place the unit carefully.)

**How to Fix Transducers -**



**Note:**

1. Open the Base Layer using screw driver as shown in Fig:1.
2. Fix the Base Layer to the your wall or false ceiling using screws.
3. Connect the wires from the Master Controller to the two terminals provided in the Base Layer of the Transducer.
4. Press fit the Top Layer to the Base Layer.

**Warranty**

Repellent comes with a warranty of one year against manufacturing defects from the date of purchase. The unit will be repaired under warranty only if all the usage instructions mentioned above have been followed and the unit is neither tampered with nor damaged in anyway.

## Some of our Clients listed using our repellents -

### Banking & Finance

- Reserve Bank of India, Patna
- Deutsche Bank, Bangalore
- State Bank of Hyderabad, Bangalore

### Software Companies

- IBM, Chennai
- Yahoo, Bangalore
- xChanging, Bangalore
- NDS, Cisco, Bangalore
- Dreamart Interactive Pvt. Ltd., Bangalore
- Genpact India Unitech, Haryana
- CIBER Sites India Pvt Ltd, Bangalore
- xChanging Technology Services India (P) LTD, Bangalore
- HCL Technologies Ltd, Bangalore
- Vodafone Essar East Limited, Kolkatta
- Soni India Pvt Ltd, Mangalore
- New Global India Pvt Ltd, Chennai
- 24/7 Customer Pvt Ltd, Bangalore
- Symbios Soft Tech Pvt Ltd, Bangalore
- India Infoline, Bangalore
- Acheiva Technologies, Assam

### Infrastructure Developers & Interior Decorators

- Larsen & Toubro Ltd., Nagpur
- CA DataCard Industries, Chennai
- Brawn Globus Turnkey Solutions, Gurgoan
- Dreamz Infra Pvt Ltd, Bangalore
- Sugan Mega Power Project, Gujarat

### Government Offices

- The Consulate General Of France (EMBASSY), Bangalore
- Commanding Officer INAS 333, Vizag
- Commando Hospital Air Force, Bangalore
- Commanding Officer AMLA, MP
- Central Research Lab, Lucknow
- University of Pune

### Drugs, Medical Equipment & Pharmaceuticals

- Himalaya Drug Company, Bangalore
- Dr.Reddy's Laboratories Ltd., Hyderabad
- Pharma Lab India Pvt. Ltd.
- Bluefish Pharmaceuticals, Bangalore
- Cipla Ltd., Bangalore
- Auctus Pharma Ltd.,
- Electro Medical Systems, Bangalore
- Pam-Glatt Pharma Tech Pvt Ltd., Satara
- Shalina Laboratories P Ltd, Mumbai
- M/s Trinity Hospital & Heart Foundation, Bangalore

### Manufacturing Industries

- Hyundai Motor India Ltd, Chennai
- Hemavathy Power and Light Pvt. Ltd., Karnataka
- Bramhani Industries Limited, Kadappa
- Exide Industries, Hosur
- Marthrubhumi Printing, Kerala

- Shree Nakoda Ispat Limited, Chattisgarh
- Menzies Aviation Bobba, Bangalore

- NTPC, Mouda, Nagpur
- Jacobs Engineering India Pvt Ltd, Ahmedabad
- Sukan Mega Power Project, Gujarat
- Shree Nakoda Ispat Limited, Chattisgarh
- SM Engineering Services, Bangalore
- Hitech Engineers & Consultants P Ltd., Hyderabad
- Airworks India Engg Pvt Ltd., Bangalore
- Torrent Energy Ltd (TEL), Gujarat
- Uttam Galva Metallics Limited, Bhugaon
- Hemavathy Power & Light Pvt Ltd., Karnataka
- Bill Forge Private Limited., Bangalore
- Sai Spurthi Power Pvt Ltd., Karnataka
- Eastman Exports, Tirupur

### Food & Hospitality

- MORE' Super Market, Maharashtra
- M/s Indo Nissin Foods Limited, Bangalore
- M/s Farm Feast Foods, Mysore

### Security Agencies

- Secure Access Solutions, Chennai
- Swathy Smart Cards Hi Tech Pvt Ltd., Salem

## Frequently Asked Question

### 1. How does this ultrasonic repellent work?

**Answer:** Varna Ultrasonic Rodent Repellers emit high frequency ultrasonic sound waves between 20 and 60 kHz to create an acoustically hostile environment that repels rodents from sound-protected rooms. It's kinder than traps, safer than poisons, and completely inaudible to people and non-rodent pets. Unlike traps and poisons, the Ultrasonic rodent repellers minimizes human contact with disease-bearing rodents (no dead rodents to dispose of).

### 2. Will rodent get used to this repellent after a period of time?

**Answer:** Definitely No! The unit uses a complex "swept" sound frequency with multiple "peaks". The intensity, complexity and changing frequencies prevent rodents from getting used to the sound emitted.

### 3. Can ultrasound irritate family pets?

**Answer:** Family pets like dogs and cats will not get disturbed by this frequency. This ultrasonic rodent repellent will only affect rodents, rats, mouse, mice, hamsters, guinea pigs and squirrels.

### 4. Does ultrasound penetrate through walls or other rooms?

**Answer:** No. Actually, ultrasonic waves behave more like light than sound. You will have to install separate unit in another room where you have rodent problem.

5. **What area / square footage does the ultrasonic wave cover?**

**Answer:** It depends upon on each individual room or space. Since the ultrasound is too fragile, sound wave may dispel rapidly with distance, and it may have reduced effect on rodents more than 20 feet from the unit. If the room/ godown is too large with lot of furniture, products or barriers, you will need to install more than one unit for maximum effectiveness.

6. **Does Ultrasonic Rodent Repellent really work? Any research done?**

An independent research University "University of Nebraska - Lincoln" had conducted a detailed research in the year 1984 to assess the efficacies of ultrasonic rodent repellent devices in the laboratory where no other rodent control was conducted at the study sites other than the application of ultrasonic devices. **Test Report concludes that "Rodents under test could either leave the buildings or move to alternate non-ultrasonically treated areas."** Source: <http://digitalcommons.unl.edu/vpc11/37/>

7. **What will be the power consumption?**

**Answer:** Power consumption will be only 2 watts for 24 hours. So 2 watts x 24 Hrs. multiplied into 31 days = 1488 watts per month / 1000 = 1.5 KWH

8. **Will it be controlled from the same day of installation or How long it will take to curb rat menace after installing?**

**Answer:** It will take minimum 6 -7 days to reduce and stop rodent activity. Within two or three weeks, or sooner, you should see a reduction in the pest activity (sighting of pests and droppings, and damage). If not, you may need one or more additional units.

9. **What is the durability of the Unit?**

**Answer:** Estimated service life of this unit is 5-6 years.

10. **Does it control other pest like cockroaches, ants or insects etc.?**

**Answer:** Some insects can repel to the ultrasonic sound, but we do not assure this unit can also control other pest problems.

11. **Does the ultrasonic rodent repellents chase rats in all places efficiently any exclusions?**

**Answer:** Repellents work efficiently in indoor premises like offices, godowns, server rooms and any other closed premises with less external noises only. The ultrasound waves will not efficiently work in the outdoors like garden, patios and any other noisy areas where are the waves gets dispersed. And also food storage areas like bakery and hotel kitchen areas are prone to food spillage and heavy infestation of rodents, in this case, rodents need to be flushed out using Glue pads or Rat traps only.