

Advanced Preventative Technology

Termite Technology Management “TTM” System

Introduction

Termites are highly successful pest insects, causing significant and costly damage to wooden structures such as homes.

The cost of termite damage, its repair, and termite management measures has been estimated in excess of AU\$800m per annum in Australia and in the USA at US\$11b per annum.

Termite behavior

The main reason for termites surviving so successfully is their ability to live within timber and underground. They avoid coming out in the open as much as possible. Often they are not discovered in a building until infestation becomes acute and the structure is compromised.

Termites are generally blind, yet they maintain highly developed social populations. These societies are managed through sophisticated communication systems. Worker termites undertake the tasks of foraging, food processing and distribution to nest mates, caring for the brood and king and queen, and nest building and maintenance.

The “TTM” System

The Termite Technology Management (“**TTM**”) system is a preventative measure for termite management using a computer **microchip** to induce sweeping sound frequencies (**SSF**) through **activators** (sound amplifiers).

By utilizing an electro-magnetic field (**EMF**) as a vehicle, we are able to successfully transfer the sweeping sound frequencies emitted from the activators into a target area.

This may prove to be an effective alternative or complementary system to current preventive and control methods and hence reduce reliance on current termite management methods, including the use of toxic chemicals.

The system is comprised of 2 main elements: a control unit and activators. The activators are positioned at the exterior corners of the dwelling allowing the SSFs to penetrate the target areas, thus providing a termite barrier to entry and / or disturbing existing termite activity.



“TTM”History

The system has been tested successfully on termite-infested buildings for up to four years. Results achieved throughout this period include the cessation of existing termite activity after a short period of time and no further re-entry or establishment of new activity over a long period of time. The Company will continue researching and validating the product through scientific and anecdotal avenues to learn and understand more about the reactions of these complex insects to the TTM system.

Termite Research

Probably, one of the most important and significant means of communicating for termites is based on vibration signals. Because of this, termite behavior could be influenced through sound signals.

Termites have also been reported to be influenced by magnetic fields and to be capable of using the geomagnetic field for a number of activities such as foraging,

nest orientation etc. Biogenic magnetite has been detected in termites and several species of other social insects, and may well form the basis of a magnetic sensory system, although other physiological functions are possible too.

South East Asia

Multi-genera pest termite faunas are not uncommon in Malaysia, Singapore, Thailand and Australia. Suppression/ elimination of one species may quickly result in re-infestation by the same species or by a succession of different species/genera. This is particularly evident upon suppression/elimination of *Coptotermes* with baits. Overall, managing multi-genera termite faunas in the tropical region can best be done by taking the biology of different target species into account, and by adopting several management strategies.

The most common infestation in the urban area recorded was caused by *C. gestroi* (sornnuwat et al. 1996a, 1996b, 1996c), while houses in the rural area were predominantly infested by *Microcerotermes crassus* (sornnuwat et al. 1996a). Also in Thailand, termites of several species can infest a building or structure simultaneously. The situation is more evident in rural areas with a higher diversity of termite species.

Although understanding of the mechanisms underlying magnetic-field reception and transduction into signals which can be used physiologically remains elusive.

The success of the TT System may be based on the impact the emitted sound and electromagnetic signals appear to have on the termite communication system. The signals may disrupt communication channels or simply deter termites.

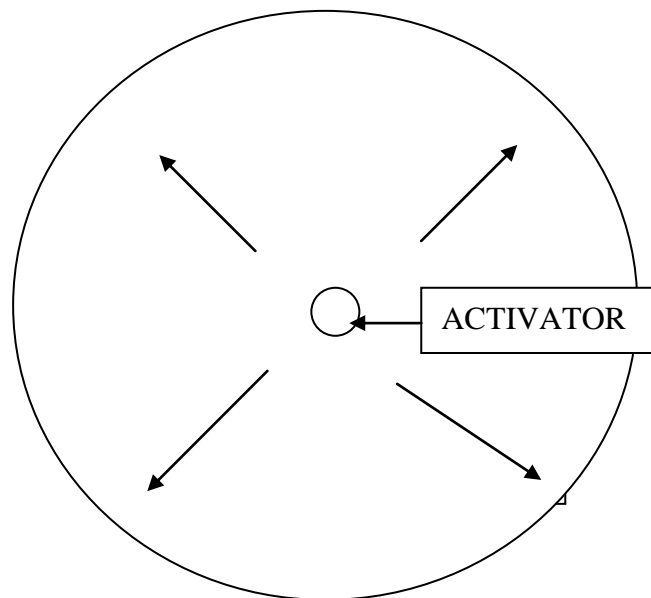


Anecdotal evidence gained over four years points to the success of the **TTM** system, even if the full reasons for its effectiveness are still to be discovered.

At present, the company can demonstrate that the technology can be used to hinder termite activity and/or provide a barrier to entry into a structure which is under the influence of targeted SSFs

Activator Application

Each activator has the ability to affect a 20 – 30m radius as a minimum. After time, the radius of the affecting area is increased because sound is very conductive in most materials.



Installation

Conduit is placed around the entire dwelling with a wire feeding through to amplify the sound, thus creating a complete signal barrier. The activators are used as boosters, and are generally placed in each corner of the dwelling or in areas of high infestation.

The conduit and activators do not have to be fixed to a structural part of the dwelling, but have to be within 0.5m of the structure to ensure the sound emissions are able to resonate through the entire dwelling and surrounding area.

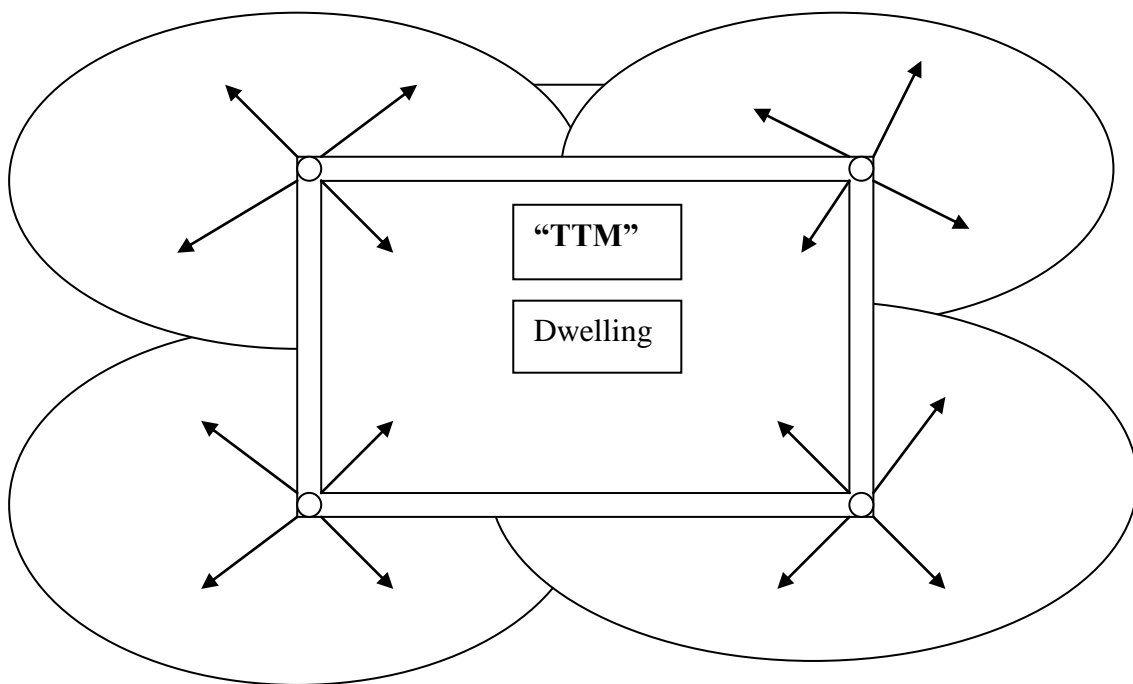
Generally, there are four activators connected to each control unit.

All wires and activators will need to be buried in the ground to ensure a neat installation and to protect the wires.

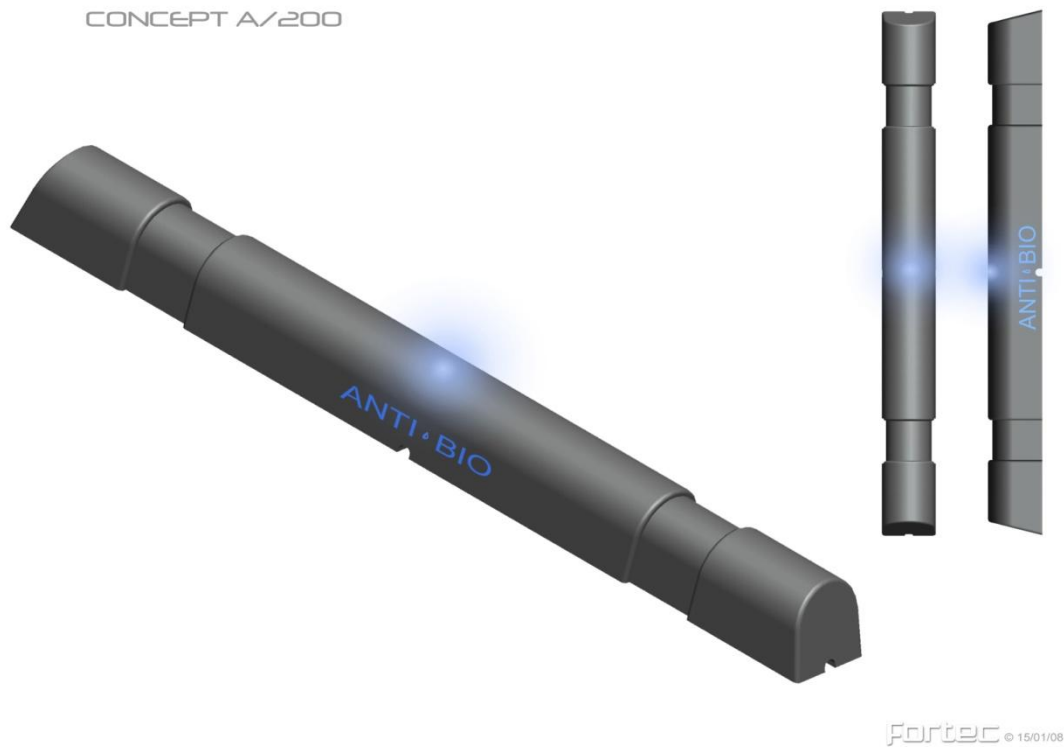
The control unit feeding the signals to the activators is installed in a weather proof area such as a store room or garage in the dwelling.

If the entire floor space and immediate surroundings are covered by SSF's there will be no need to install additional activators above floor level unless the infestation is already apparent there, and termites have access to this area without going through the floor space.

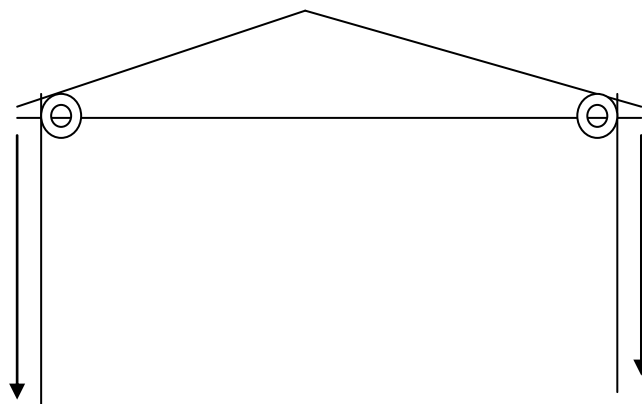
The example below illustrates an installation in a typical dwelling. The conduit is laid around the exterior of the dwelling, as is demonstrated in this drawing;



Activator & Wire placement



The activators are installed at each corner of the dwelling, with the conduit wire feeding around the building acting as an amplifier. Alternatively, where possible or necessary, the activators can be attached to the ceiling framework, allowing the sound emissions to pass down from the ceiling, through the walls and through the floor.



The control unit can be installed anywhere in the dwelling to provide easy access for wiring the activators.

Each activator emits sound that does not interfere with any electrical equipment and cannot be heard. It will also not affect animals such as cats, dogs or mice, fish, etc. The system in operation will not cause any deterioration to the existing building walls, paint or lighting.

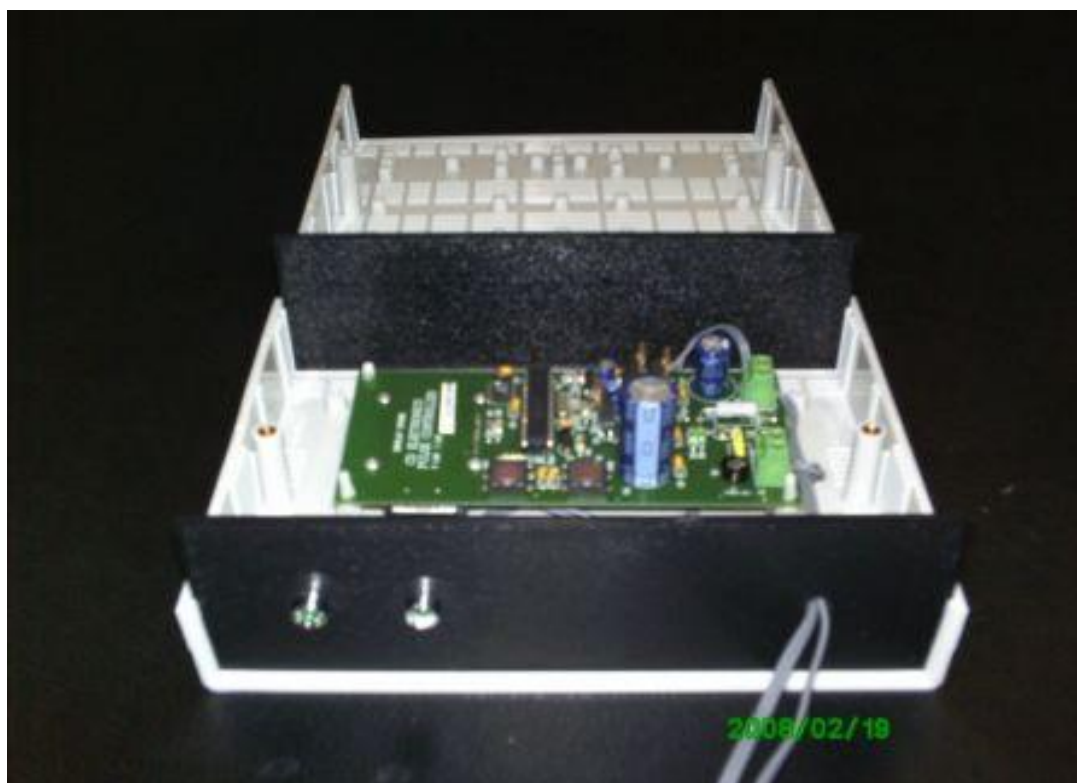
All systems comply with international sound emission laws.

System Power

The control unit is operated by a power transformer plugged into a standard power socket located in the dwelling.

The system is powered by 10 volt / AC / 1 amp and can be easily installed by anyone. It is not necessary to utilize the services of a certified electrician.

Being fully automated, if interference occurs through power surges or if it is disconnected for any reason, the system will reset itself back to default mode automatically. All that is required is for the power transformer to be removed and then plugged back in and turned on.



LED Light Function

There are two (2) LEDs on the control unit. One green LED is lit when power is turned on. The remaining blue LED is an indication for the status of the activators and will only go out if they are not communicating with the control unit or are otherwise disconnected.

System Warranty

The system has a two (2) year warranty. Being fully automated it does not require any maintenance or replacement parts. It is recommended to keep the control unit in a dry place to ensure longevity. It has an estimated life span of ten – fifteen (10-15) years.

In summary

Keeping the “**TTM**” system switched on 24 hours a day creates a barrier to keep termites at bay.

There are very few existing methods available to guarantee that a structure stays termite-free in the long-term without a termite management program. This is not only inconvenient but can also be costly.

“**TTM**” is an environmentally friendly effective barrier against termite activity which requires no maintenance and will minimize annual fees on the use of pesticides.

“**TTM**” is a 24 hour protection barrier interfering with termite communication. It remains effective at all times unlike traditional treatment methods.

Effective pest control is about being proactive rather than reactive. External and environmental changes are sometimes out of our control, therefore we highly recommend that dwelling owners have their property regularly inspected. If termites are identified additional measures will need.

Based on the established success of the “**TTM**” system, we are extremely confident of results with this new termite barrier against these destructive pests.

Acknowledgments

We would like to thank all of our site study observers who participated in trials on their own homes and to the termite industry contractors who provided their expertise assessment and knowledge to the project.

References

- 1) B.A. Maher (1998) magnetite biomineralization in termites. Proc. R. Soc. London B 265: 733-

- 2) D.M.S. Esquivel, E. Wajnberg, G.R. Cernicchiaro and O.C. Alves (2004) Comparative magnetic measurements of the migratory ant and its only termite prey. *Journal of magnetism and magnetic materials* 278 (2004) 117-121
- 3) R. Inta, T.A. Evans, J.C.S. Lai and M. Lenz (2008) What do vibrations have to do with termites' food choice? *Acoustics Australia* 36: 59-63

22nd June, 2007

Tim Briglia
Anti Bio Technologies Pty Ltd
PO Box 600
Ashmore, QLD 4214

Dear Tim

For several years now we have had the Anti Bio System installed at our house in an attempt to reduce the problems we have encountered with termite activity. We can safely make the following observations.

In 2001 we discovered termites in a wall between the garage and the living room. This was treated with termite baits. Approximately 2 years after that more infestations were found at the rear of the house where it drops down from one level to another level via 2 steps. The termites were treated with baits and the concrete was core drilled to spray the sub soil.

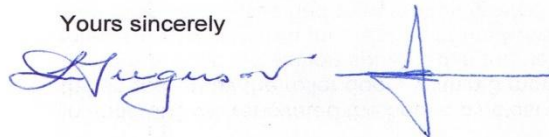
It was at this time that our pest exterminator advised a full house barrier which entailed digging a trench around the exterior of the house and pumping pesticide down into the foundations. However, whilst midway through digging the trenches we were told about trials of your electronic device that repels termites and thought we should give it a try. We installed the device and did not have another termite attack.

In mid 2005 we renovated the house by closing in our garage and bricking up the space left by the roller door. Within 3 months of completing this work, another termite infestation appeared in the newly erected wall. It was interesting to note that this section of the house had not been wired into the Anti Bio System. We had the termites treated with a bait system and once the termites had been dealt with we immediately installed an extra probe to cover this previously unprotected wall.

In the 2 years since the last termite infestation we now obtain 6 monthly pest inspections and have been clear each time.

Thank you for your follow up recently, as it has given us added confidence that your product is working. We will keep you informed when necessary of any developments/termites in the future and are happy for others to be shown this record of our observations.

Yours sincerely



Peter & Leanne Ferguson
Pacific Pines, Queensland

David Telfer
Anti Bio Technologies Pty Ltd

24th July 2007

Dear David

Re: Anti Bio: Ainsley Avenue, Ashmore

Thank you for your follow up visit last month to check and calibrate our Anti Bio. As you have been well aware over the years I live in a particularly bad termite area with myself and my neighbours having to do large amounts of remedial work to our timber house frames.

Back in about 1999, prior to installing the Anti Bio, termites were detected in the eastern side of the house. They had come through the slab and had eaten large chunks of the door frames and wall studs. On suggestions from exterminators we had a boundary spray done including lifting all the pavers around the house and drilling through concrete to get maximum penetration and protection. Within 12 months the termites were back again in the same section of the house. More repairs were done and more poison laid to kill the termites.

During the next inspection again they were detected. This time we would not use poison because there was a new baby in the family. So at the suggestion of the exterminator he asked us if we would be "guinea pigs" for a new piece of equipment being tested that was supposed to keep termites away by emitting electrical pulses. I agreed to this and so the Anti Bio was installed in the south eastern corner of the house. The problem area. Since that installation there has not been a termite found on that side of the house. They were on the other hand discovered some 2 years ago, on the western side at the furthest point from the Anti Bio device.

Because the Anti Bio device was, at that stage not yet a marketable proposition and still being tested we were unable to install it throughout the house, so opted for another more costly and intrusive termite deterrent.

After living with the Anti Bio for some 7 years, I can honestly say that the device works requires little or no maintenance, is non intrusive and is an excellent means of keeping termites out of the home.

Kind regards

Jamie McDonald
Director

41 Reids Road
HIGHBURY SA 5089

Adrian Wickham
Technical Manager
Anti Bio Technologies
PO Box 600
ASHMORE CITY QLD 4214

27 July 2006

To whom it may concern.

As a result of a segment on the ABC Programme "The Inventors", in relation to a pest control device developed by Anti Bio Technologies, I contacted the company enquiring about the possibility of termite control using similar technology. I was advised that testing was underway on termite control.

Previous control methods had consisted of twenty in-ground bait traps surrounding the house with an additional four traps close to some mature trees in the garden. The only trap activated was next to a very old willow tree some, 20m from the house. This tree was later found, on removal, to contain a large colony of termites. From my experience, it would be more good luck than good management to attract termites to a bait trap.

I commenced a six months trial of the unit in January 2006. I found it easy to install, requiring only 240v power in the attic, and following simple instructions on placing the control units on selected appropriate ceiling joists appropriate to what had been active termite workings. Both the northern and southern sides of the house had been subject to attack, the worst being a sub-colony on the north side.

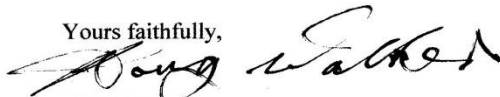
After installation of the unit, I initially checked the roof area and traps on a weekly basis and after one month, on a fortnightly basis. No other termite activity was recorded during the six months trial period.

I have no hesitation in recommending the termite control unit as a superior and clean control method to the methods now employed using ground saturation with poison, or the bait control method, which is very good, (if you can attract the termites to the trap? or locate activity within the house, which can be baited).

From a cost perspective, considering the bait method of inspection, installation and monitoring for one year, from \$2,500.00, and from \$500.00 per year maintenance thereafter, the Anti Bio Unit stands alone in cost and function.

Please feel free to use all or any part of my testimonial on the unit.

Yours faithfully,



D M Walker