



## Directive Movement of Termites and Social Insects

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OTM #s: 0254, 0475, 0549

### Application

Electronic termite attraction and eradication system

### Key Benefits

- **Increased efficiency of termite and other social insect monitoring and baiting systems**
- **Electronic devices direct termites to a bait station and stimulate feeding**
- **Can be used with existing termite bait stations to minimize use of liquid termiticides and increase consumption of termite bait matrices**

### Market Summary

It's estimated that every year termites cause more than \$5 billion of damage. Termite control services make up the largest segment of the pest control industry, especially in the termite-prone regions of the West and South. Termite control accounts for 17% of overall pest control industry revenue and is expected to generate \$2.4 billion in 2016.

### Technology Summary

Each year, approximately 400,000,000 gallons of termiticide are used under and around living spaces to provide a toxic barrier to termites. Bait stations can use strategically-placed termiticide bait matrices in lieu of saturating the soil around a residence with pesticide, but bait station efficacy may be limited because the stations rely on termites' random foraging to find the bait.

Mississippi State University researchers studied termites' natural attraction to electric fields of certain wavelengths and discovered how to recreate those vibrations to control movement of the termites. This technology uses low-level electronic frequencies to direct subterranean termites towards a bait station and away from a structure. The technology can increase bait station effectiveness while reducing overall pesticide use, and it can be easily integrated with existing bait station designs.

**Development Stage:** Prototype

### IP Protection

**Issued U.S. Patents: 6,837,001** *Positive directed movement of termites by radio waves as a basis for control procedures*; **7,698,853** *Termite control methods and apparatus*; **7,707,767** *Termite control system, method and apparatus*.

**Inventors:** Terry Amburgey, Kevin Ragon, Patrick Donohoe, Michael Sanders, Craig Bell

