



*Business Idea:*

Sonic Flashlight -- A small high-intensity disorienting stroboscopic flashlight to which are coupled two miniature high-intensity shrill alarms, front and rear. The sound pulses may be in or out of phase with the light flashes.

By itself, the piercing sound of the pulsed alarms would merely startle or agitate a menacing person (or animal). But when properly coupled to a stroboscopic light at a disorienting flash rate (conventionally about 12 flashes/sec), the sound ideally would sensitize the subject, thus adding to the disorienting effect.

The two alarm speakers would be exactly out of phase, canceling much of the sound transmitted to the user's ears.

*Current Status:*

We have designed and built successive working prototypes of a high-intensity, moderately disorienting stroboscopic flashlight, to which we have coupled a single NexxTech 4900428 Mini Personal Alarm. We agree with our campus-security consultants that the "ear-piercing 140dB alarm" is not loud enough "to help deter attackers," with or without the light. We're building a much louder one.

*Who We Would Sell To:*

Security guards, esp. 2nd or 3rd shift. Residents of high-crime areas. Freshmen or parents (as an alternative to whistles or chemical sprays).

"Security guard: Average annual number of violent victimizations in the workplace: 369,000; rate: 87 per 1,000 workers." -- Bureau of Justice Statistics, U.S. Dept. of Justice, Violence in the Workplace, 1993-99 (2001).

*Why Our Product Is Important:*

Police officers, guards, and cabdrivers are more likely to be violently attacked than workers in any other occupational field. But for liability reasons, most security guards are not issued or permitted to carry any device whose use could result in an assault (hostile contact with a person's body). The Sonic Flashlight may be an employers' most cost-effective way to reduce assaults upon (or by) guards.

College freshmen (esp. if victimized in high school) might value an effective personal-safety device that is easily mastered and cannot be used to harm the owner. Our consultants (and the MIT Police) have not been able to find any such product on the market.

*Critical Immediate Issues We Need Help With:*

What should we be doing to maintain secrecy?

*Backgrounds & Roles of Team Members:*

David H. Friend '07. G, Course 6 (EE). Thesis research on LEDs and optics. Designing and building advanced flashlight-alarm systems.

James K. Herms. MtE '87, Course 3. US Patents: Vena Cava Filter device improvements; Sensodyne dentifrice compositions (filed 1987-1999) (issued 1989-2001). Former Police Log Compiler, *The Tech* (2006).

Proposed that addition of auditory and unexpected-event stimuli could sensitize subjects to the disorienting effects of stroboscopic visual stimulation, and that the combination could make a small, relatively foolproof personal-safety device practical. Funded initial investigation, for public-safety purposes.

Daniel G. Walker '05. G, Course 2. Flashlight designer & hobbyist, MIT Outing Club.

Designed and built the first two flashlight-alarm prototypes.

*What We Hope to Gain by Working with the Venture Monitoring Service:*

We hope our mentor(s) could help us-

- learn how to communicate efficiently and work as a committed team (on a part-time basis, 8-10 hr/wk) until a functioning model has been demonstrated.
- recruit a managing partner or CEO to organize and lead the venture.
- identify MIT faculty or staff with technical expertise in animal or human responses to auditory stimulation or photic driving.
- locate funding for short-term academic research projects if indicated.