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## Optimizing Sound to Suppress Tinnitus

Tech ID: 18697 / UC Case 2007-464-0

### BACKGROUND

Tinnitus is the perception of sound in the absence of external sounds. More than 60 million Americans suffer from tinnitus. There is currently no cure for tinnitus. Treatments for tinnitus exist, such as drugs, surgeries, psychotherapies, and masking but none are consistently effective. The mechanisms underlying tinnitus are unclear, but peripheral and central origins have been proposed.

### TECHNOLOGY DESCRIPTION

Although known for its high-pitched ringing, tinnitus is an internal noise that varies in its pitch and frequency. Researchers at the University of California, Irvine, have used sound to suppress tinnitus in a group of subjects. External stimuli, acoustic or electric, is used and has been found to suppress and provide temporary relief from the high-pitched ringing associated with the disorder. The approach is different from previous masking methods which use external sound that is typically louder than the tinnitus and has similar pitch quality to the tinnitus. Optimized acoustic or electric sounds, customized to the needs of the patient, may be softer and have different pitch qualities than the tinnitus. Customized sound can be conveniently delivered by a variety of audio devices or electrically via a temporal or permanent implant. The technology encompasses the use of proprietary algorithms, software and a device.

### APPLICATIONS

This technology is directed at the treatment of tinnitus. The suppression of sound via a mechanism of external matching sound delivery allows for a customized treatment of tinnitus. Treatment may be delivered via a variety of convenient sound delivery devices.

### PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,795,193	08/05/2014	2007-464
United States Of America	Issued Patent	8,357,102	01/22/2013	2007-464

### CONTACT

Alvin Viray  
aviray@uci.edu  
tel: 949-824-3104.



### OTHER INFORMATION

#### CATEGORIZED AS

- » **Medical**
- » Devices
- » **Sensors & Instrumentation**
- » Other

#### RELATED CASES

2007-464-0

