

'Hear And Now' We Introduce The Sert-A-Plug...A Hands Free Mechanical Application System For Disposable Soft Foam Earplugs.



My name is John M Johnson. My sons Shawn Johnson, Joshua Johnson and I, invented and patented, a very effective mechanical hearing protection device (HPD) to **reduce work place hearing loss** and time related work loss. Our new technology conveniently and properly fits two hygienic disposable soft foam earplugs in a matter of seconds without the need to hand roll down before fitting or for the necessity to hold the earplugs in place for expansion which is normally required when using disposable soft foam earplugs.

Our invention is known as Sert-A-Plug. Our motto: Sert-A-Plug...'Because it's loud out there!'

Created by necessity: The original idea for the Sert-A-Plug came a few years ago after I suffered from a repeat ear infection caused by the use of contaminated disposable soft foam earplugs while on an industrial jobsite. Aside from the discomfort I experienced, valuable work time loss was also a result. During this issue, I stated to my son Shawn, who is the primary inventor of the Sert-A-Plug, that I wouldn't be using foam earplugs in the future as they had been causing occasional ear infections. This is when Shawn conceived the idea of the mechanical applicator to create a way to utilize our favorite HPD without soiling the earplug prior to fitting. After much research and many design renditions the Sert-A-Plug was created and engineered to mechanically fit two hygienic disposable soft foam earplugs. During this process we discovered that the Sert-A-Plug also properly fits the earplug in a consistent manner. I now use the Sert-A-Plug for all my hearing protection needs.

Designed for efficiency: The tip of the Sert-A-Plug has been designed to be placed into the bowl of the cavum of the ear, and then aligned to position the Sert-A-Plug device with the ear canal. **This also places the earplug in the same position near the opening of the ear canal for each and every application.**

My background as an industrial safety manager is in the fields of heavy industrial cleaning and environmental management. This often requires my crew and I to work in dirty and or confined areas that can often generate a hazardous level of noise that requires the use of HPD's to keep us below our permissible exposure limits. A crucial supplement to our personal protection equipment is an array of HPD's and like most end-users our #1 HPD of preference is the disposable soft foam earplug.

While the earplug is often used in industrial settings, cleanliness of our hands in these environments is not always easy to maintain. The Sert-A-Plug provides a mechanical hands-free advantage that properly fits hygienic disposable soft foam earplugs while on the job that consistently maximizes their effectiveness. (See video of Shawn demonstrating how it works)

The National Institute for Occupational Safety and Health (NIOSH) reported that approximately 22 million workers are exposed to potentially damaging noise at work each year. Occupational hearing loss is becoming one of the most common work related illnesses, and the cost for hearing related worker's compensation paid out in the United States annually is estimated at \$242 Million!

Industry estimates show that disposable soft foam earplugs make up approximately **97% of the U.S. HPD market sales.** This relationship of health related cost to the percentage of disposable soft foam hearing products used for safety illustrates the need to improve the most popular and recognizable form of hearing protection used by workers for decades.

Sert-A-Plug's potential to keep workers safer and more productive, makes it a **risk aversion** product that is worthy of the distinction.

The Sert-A-Plug turns a good product, the disposable soft foam earplug, into a great product by eliminating the unhygienic and unreliable hand fit from the process making it an excellent option for anyone's personal hearing protection.

It is our desire to partner with **CDC/NIOSH/OSHA/DOL** to promote the Sert-A-Plug as a mandatory part of hearing loss prevention programs across the United States to aide in the eradication of noise induced hearing loss (NIHL).

There are many benefits and numerous problems solved by Sert-A-Plug's mechanical application technology...**Hear and Now** we highlight three examples that make Sert-A-Plug a cost effective product:

- 1. <u>Cleanliness</u>: Sert-A-Plug consistently delivers hygienic earplugs to the end-user, minimizing adverse health risks including infections, NIHL and related work time loss. The end-user never touches the earplug at any time until it is removed from the ear.
- 2. <u>Consistency</u>: Through its mechanical advantage of being able to place the tip of the Sert-A-Plug at the opening of the ear canal the end-user can rely on the Sert-A-Plug to consistently fit each earplug, thus allowing the earplugs to perform at their highest level of noise attenuation.
- 3. <u>Effectiveness</u>: With the time saved to properly fit earplugs in virtually any environment, individuals and businesses alike will enjoy the advantage of the Sert-A-Plug through increased productivity and less downtime, while maintaining the highest level of hearing protection provided from clean disposable soft foam earplugs.

The primary target market for Sert-A-Plug is the **industrial sector**, where hearing protection is often mandatory. Fit training is made available and audiometric testing is performed to establish a baseline audiogram from which to monitor each impacted employee for a standard threshold shift (STS). STS is a recordable hearing loss. Employers in our target market must establish and maintain an audiometric testing program for all employees exposed at or above the action level of 85 dBA-TWA (time-weighted average).

Other targeted sectors include; Aerospace, cleanrooms operations, military. medical applications such as during CAT scans and MRI's, retail, commercial, motor sporting events, yard maintenance activities, etc.

Sert-A-Plug is produced with environmentally friendly materials and is a bio-degradable green product that will be available in a single use version and multiple use reloadable versions, as the delivery mechanism can be packaged with several pre-loaded earplug cartridges making it a valuable item for anyone requiring hearing protection at work or at play.

Sert-A-Plug will bridge the gap between real-world end-user achieved attenuation and the inherent maximum noise attenuation their HPD is capable of achieving while also preventing many noise induced hearing loss injuries.

Hearing loss can be prevented...Permanent hearing loss cannot be corrected by surgery or medicine! **The Sert-A-Plug is Hear and Now!**

U.S. Patent #8,616,213 B2 & U.S. Patent #8,955,519 B2