

**PRESS KIT**

## Asius Technologies LLC

Asius Technologies, a Boulder, Colorado company, arose out of a music career spanning decades. As a teenager in the Sixties, Asius Founder and President Stephen Ambrose was forbidden by his classically trained musician father to listen to rock music. Like any teenager, he found a way to enjoy his love of rock without letting his father know – he took putty, glue, and radio parts and built small device to fit in his ear so he could hear the music but no one else. Ambrose went on to invent the in-ear monitoring (IEM) technology that would become today's earbuds and start a revolution in personal audio.



*Ambrose's first earbud prototype and examples of hardware he created in the 1970s and 1980s.*

From that first creation, Ambrose embarked on years of development and refinement of wireless products, touring with the likes of Stevie Wonder, Simon & Garfunkel, and the Steve Miller Band, as well as working the sound for recording sessions with Joni Mitchell, Roger Waters, and Guns N' Roses.

The IEM technology invented by Ambrose delivers full-spectrum, high-fidelity sound, and has been used by almost every major musical act onstage. It's transformed the way people across the globe listen to music.

But the use of earbuds has been linked to hearing loss, which troubled Ambrose. Asius Technologies was started to design a solution that breaks the cycle of volume and hearing loss: a second, synthetic eardrum right inside the earbud.

With National Science Foundation and NIH funding Asius Technologies has developed and patented its ADEL™ second eardrum technology that allows earphone listeners to enjoy their music with any risk of hearing loss. It has been tested at Vanderbilt University and now lower volumes sound louder and better because the eardrum and speaker work optimally.

The Asius Technologies team is designing and producing earbuds and variable modules that can be used as components for other hearing related technologies. use specialized software and 3D printers to quickly simulate and revise the mechanical properties of their designs. What used to take a month- to go from design to prototype- now takes 30 minutes.



*Current pre-production ADEL™ earbud model*

With more products in its pipeline, Asius Technologies will continue on its mission to **prevent** hearing loss, **preserve** remaining hearing, and **restore** long lost hearing,

## Earbuds



The **ADEL™ Drum** ear buds are the most advanced earbuds in the world to utilize our second eardrum invention that **won't damage ears yet deliver an amazing sound experience** because the technology allows the eardrum to work the way nature intended while mitigating hearing loss.

## Non-Adjustable Modules



Our **ADEL™ Non-Adjustable Modules** are designed to bring even more transparency and spaciousness to IEMs and earplugs. They automatically work to absorb the pneumatic pressures in your ear canal, and also reduce the occlusion effect to give singers and active wearers fatigue-free listening.

## Manually Adjustable Modules

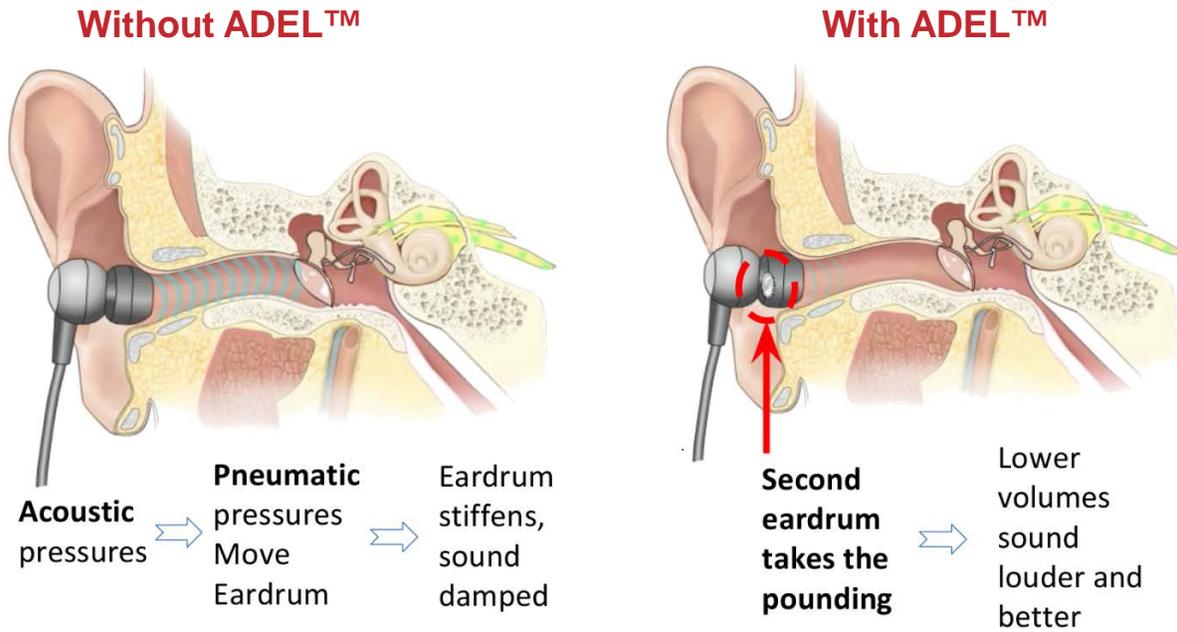


These **ADEL™ Manual Adjustable Modules (MAMs)** are the most advanced Asius products yet. They feature manually adjustable controllers which can easily be turned while in ear, and variable valves that help regulate pneumatic pressure. Each has a secondary membrane tensioner, as well as a balancer for the Eustachian Tube, a critical physiological influence on hearing quality.

## Musicians' Hearing Protection



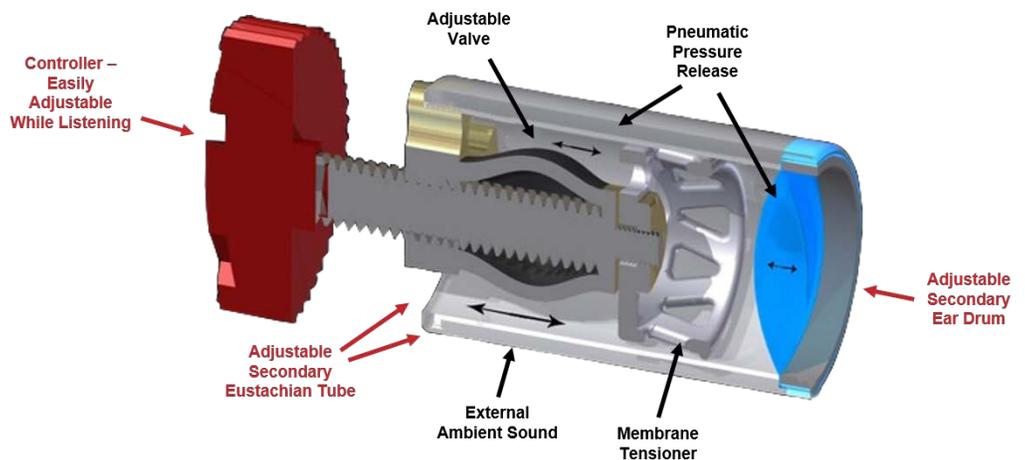
Asius' **Musicians' Hearing Protection** sleeves allow a listener to use **any choice of ear tip** while having a center that allows the insertion of any **ADEL™** module. This allows the user to still hear the music of the performance clearly across the frequency spectrum, while **still having control over the isolation they need** via the particular **ADEL™** module used.



**Without ADEL™** - When a device is inserted into the ear, the canal is literally sealed and pneumatic pressure stiffens the column of air in the ear canal – just like if your finger were to seal the tip of a syringe. Now speaker motion moves the column of air which directly moves the eardrum. This excessive motion of the eardrum causes a self-protecting stapedius reflex that dampens eardrum motion and lowers the volume. The more the volume is turned up to compensate, the more the eardrum tightens.

**With ADEL™** - a micro component of the ear piece houses a “bio-mimicked” or secondary artificial eardrum that absorbs the pneumatic pressure. Meanwhile, the pure acoustic pressure is still transmitted to the eardrum, which will behave naturally since the pressure is now regulated. And since the ear drum is free to move properly, less volume is needed to actually listen and the sound is presented with an improved dynamic range, because both the speaker and eardrum are working under optimum conditions - much like in an expensive piece of audiophile equipment.

**Manually Adjustable** – ADEL™ modules come in adjustable or non-adjustable models. Manually Adjustable Modules (MAMs) can be individually set to optimize listening for each of your ears and your environment. By turning the knob, you can adjust the tension of the membrane and to what extent pneumatic pressure is released, while at the same time allowing ambient sound to enter the ear canal.



**Rolling Stone**

*AC/DC's Brian Johnson Gives Positive Update on Hearing Loss*

**THE WALL STREET JOURNAL.**

*WSJ Startup of the Year - The Best of the Final Five*

**Entertainment**

*AC/DC's Brian Johnson Gives Update on Hearing Loss*

**GIZMODO**

*These Balloon Earbuds Are Better Than Your In-Ear Earbuds*

**The Washington Post**

*Destination Innovation Contest: Asius Technologies*

**POPULAR MECHANICS**

*The Tiny Lens That Could Stop Hearing Loss from Earbuds*

**inner|fidelity**

*Inventor Stephen Ambrose Claims Development of Safer Ear Tip*



**Healthy Hearing**

*Hope for Musicians With Hearing Loss*

**Entrepreneur**  
MAGAZINE

*Raising Capital Through Regulation A+? You Still Need to Market Your Socks Off.*

**Men'sHealth**

*Stop the Headphone Hurt*

**VentureBeat**

*The Backed Pack: Safe Headphones, a Smart Shower & a Wearable Food Monitor*

**engadget**

*Asius' ADEL™ Earbud Balloon Promises to Take Some Pressure Off Your Poor Eardrums*

## What makes the ADEL earbud different?

*The ADEL™ technology features a second eardrum that absorbs the harmful pneumatic pressures produced by all other earbuds. Now lower volumes sound louder and better. We proved this with tests at Vanderbilt University Medical Center. The speaker and the eardrum work as nature intended so you experience a natural sound for the first time.*

## What is pneumatic pressure?

*When you listen to music at a concert only the sound pressure reaches your eardrum. When you seal your ear canal with an earbud or hearing aid speaker, pneumatic pressures stiffens the air. It is pneumatic pressure that can inflate your tires not sound pressures. Pneumatic pressures stiffen the air in your ear canal so that the speaker motion overpowers the eardrum. The eardrum responds with a self protecting reflex - the stapedius reflex - that damps the volume. When you turn up the volume to overcome the damping the eardrum just damps more sound. Our ADEL™ second eardrum takes the pounding so lower volumes sound louder and better.*

## Why can't I just turn down the volume on my regular earbuds?

*When Stephen Ambrose returned to the lab to develop the next generation in-ear monitor he made a discovery. He discovered that when the ear canal is sealed with an earbud or hearing aid, acoustic pressures convert to amplified pneumatic pressure. Unlike acoustic pressure, pneumatic pressure causes motion, specifically motion of the eardrum. The eardrum is then forced to re-actively move with amplitude that is a thousand times more than normal causing muscles around the earldom to reflexively tighten the eardrum and damp the sound. Volume must be turned up to overcome this damping. The more the volume is increased the more the eardrum tightens. The solution was to build a tiny membrane that absorbs the pounding and acts like an auxiliary eardrum. Now the eardrum relaxes & listens. Volumes can now sound just as loud but are actually at 1/10 the power. We were invited to present our results to the International Acoustic Congress In Montreal. We proved our theories with the help of Vanderbilt University Medical Center.*

## What is an in-ear monitor?

*As a teenager in the 60's Stephen Ambrose was recording in a studio next door to Johnny Cash and was so impressed with Cash's sound he decided to try to re-create it - at home. By modifying swimmer's earplugs with tiny speakers and clay he had the beginnings of his in-ear monitor. This technology represented the first time that a high fidelity sound was delivered to a sealed ear canal. After the design was perfected Stephen toured with many performers such as Stevie Wonder. In ear monitors replaced huge stage monitors (speakers) that would blast the singer's voice back at them. With in-ear monitors, performers hear their own voice over the crowd or echoes and also protect their ears in the case of rock and roll music. While In ear monitors protect musicians hearing today's earbud makers perverted that design.*

## Can ADEL™ restore hearing?

*We have been able to restore hearing function to nerve dead ears. While our control earbuds use a passive form of ADEL™, our active or inflatable ADEL™ effectively applies a "Trans Cranial Conduction." This is a medical breakthrough that has the potential to be life changing for millions of people. This medical benefit is something that our ADEL™ earbuds can deliver.*

## **Stephen Ambrose – Founder, Chairman, President & Chief Scientist**

As a teenager in the 70's Stephen Ambrose was recording a song next door to Johnny Cash. He had the chance to hear Johnny's voice through headphones and was so impressed with that sound he decided to try to re-create it. By modifying swimmer's earplugs with tiny speakers and clay he had the beginnings of his in-ear monitor. This technology represented the first time that high fidelity sound was delivered to a sealed ear Canal. After the design was perfected Stephen toured with many performers such as Stevie Wonder who depend on in-ear to hear their own voice over the crowd and other musicians and also prevent hearing loss.



For the past 4 years Asius has benefited from NSF and NIH research grants that have provided the R&D funds for Mr. Ambrose to make important discoveries initially applied to earbuds, hearing aids and hearing protection. He has several patents including a pioneer patent. He was voted Autodesk inventor of the year for 2013 and is credited with enabling the Walkman technology.

## **Steve Lebischak – Chief Executive Officer**

Prior to Asius Technologies he was CEO, and Chairman of Aero-X Golf, Inc. makers of Polara golf products, featured on the front page of the New York Times, Today Show, Fox News and many others. His involvement with Aero-X began when he was a Managing Director at a national investment bank helping owner founder technology companies grow by raising capital, spinning out Intellectual Property, making acquisition or being acquired. Mr. Lebischak has 15 years of experience in program management, product and corporate development at GE Aerospace, GM, and IBM here he developed technology-based products and systems for the DOD and Department of Homeland Security, among other clients.



Mr. Lebischak earned a BS degree in electrical engineering from the US Coast Guard Academy, and served as a Coast Guard officer in Alaskan waters. He subsequently earned an MS in environmental engineering and a second MS in management from Pennsylvania State University. Mr. Lebischak also earned an MBA in finance from The Wharton School of the University of Pennsylvania.



FOR IMMEDIATE RELEASE

## **Asius Technologies Looks to China for Funding, Partnerships, and Success**

BOULDER, CO - December 20<sup>th</sup>, 2015 – Asius Technologies which is specialized in designing and building hearing protective sound enhancing personal audio devices, has been given a cash prize of \$5,000 at the Dongsheng Global Entrepreneurship Competition and has been selected to visit a group of top venture capitalists in Beijing's Zhongguancun, China's Silicon Valley.

The yearly competition, designed to help find high potential, early-stage, foreign tech companies that want to get involved with China's growing startup ecosystem, is backed by Chinese venture capitalist firm and investment consultancy Dao Ventures and the Dongsheng Science and Technology Park, a unit of Zhongguancun Science Park, as well as Arlington Economic Development. At the Park, Asius will compete against other finalists from around the world for a \$160,000 cash funding for their business development, according to organizers.

"China is a fantastic resource for manufacturing precision technology products. Hopefully we will meet some great venture capitalists as well as supply chain partners in China," said Steve Lebishcak, CEO of Asius.

The United States has seen Chinese investments grow at an average annual rate of 41 percent from 2009 to 2013, the highest among the countries that are investing in the United States, according to US Commerce Department data. Rhodium Group, a US research firm, also reports that Chinese companies completed more than 9 billion dollars of foreign direct investment in the United States in the first three quarters of 2015. With more than 8 billion dollars of pending transactions, total investment is likely to exceed 10 billion dollars for the third year in a row.

Zhang Tao, chief executive of Dao Ventures said, his company plans to hold another entrepreneurship competition in 2016 in collaboration with Chinese and foreign partners. He said, "We hope next year's competition will have broader international vision. Besides the United States we will consider Israel because United States, China, and Israel are considered to be the best three countries for entrepreneurship."

**About Asius Technologies:** Asius Technologies ([www.asiustechnologies.com](http://www.asiustechnologies.com)) is the leading developer of finely engineered electronic devices that are specifically designed to enhance sound while mitigating the damage to the human ear caused by air pressure. Its products are used and enjoyed the world over by sound engineers, musicians, audiophiles, and anyone needing to utilize earbuds for a sustained period of time in noisy environments. Asius Technologies was founded by Stephen Ambrose, the "Father of Personal Audio," who pioneered in-ear monitors, trailblazing the path for the invention of other products such as the Walkman, iPod, and virtual reality devices. However, given the epidemic of hearing loss in the music world, Stephen Ambrose is now focused on developing technology that not only augments listening, but also preserves hearing.

Contact:

Steve Lebishcak, CEO  
Asius Technologies LLC  
1257 Whitehall Drive  
Boulder, CO 80504  
[info@asiustechnologies.com](mailto:info@asiustechnologies.com)  
720-204-2676

###



FOR IMMEDIATE RELEASE

**Brian Johnson of AC/DC has a positive experience with Asius Technologies devices**

BOULDER, CO - July 24<sup>th</sup>, 2016 - As a result of a recent viral message published on social media by Asius Technologies, Founder Stephen Ambrose has met with Brian Johnson, front-man for the famed rock band AC/DC. Earlier this year, Mr. Johnson had to postpone touring with AC/DC due to increasing hearing loss. Meeting with Mr. Ambrose, he was able to try a new generation of Asius' popular ADEL™ devices under development to see how they affected his hearing.

ADEL™ devices are the only earbuds and modules in the world to utilize Asius' patented "second eardrum" invention that reduces the risk of hearing loss yet delivers unmatched sound because they allow the ear to work the way nature intended. The trial resulted in a positive hearing experience for Mr. Johnson.

Brian Johnson states, "It WORKS. It just totally works and you can't argue with that. I was really moved and amazed to be able to hear music again like I haven't heard for several years now. I can't wait for it to be miniaturized so I can use it in every situation from normal communication, going out to noisy restaurants, to performing live music on stage."

Stephen Ambrose declares, "Having invented the first in-ear monitor in 1965 and popularized them worldwide in the 1970s, I have been involved in the music industry ever since and heard many famous musicians say that their hearing was deteriorating. I have dedicated my life to helping prevent hearing loss ever since and now have created the technology to do so. We are working hard with good people like Brian who have so much to give and need such solutions. I want to sincerely thank all of Brian's friends for their help in getting my message to him and making all this possible."

Mr. Ambrose added, "We are encouraged by Brian's offer to work with us to fine-tune and miniaturize the device for his personal use, which leads to our mass production. There's a lot of development work yet to do but we have the potential to restore hearing function to even nerve-dead ears and this could benefit millions of people."

Asius plans to continue developing its line of products and is preparing to launch a crowdfunding campaign in the near future to let the world know about the opportunity to help solve such a widespread problem.

**About Asius Technologies:** Asius Technologies ([www.asiustechnologies.com](http://www.asiustechnologies.com)) is the leading developer of finely engineered electronic devices that are specifically designed to enhance sound while mitigating the damage to the human ear caused by air pressure. Its products are used and enjoyed the world over by sound engineers, musicians, audiophiles, and anyone needing to utilize earbuds for a sustained period of time in noisy environments. Asius Technologies was founded by Stephen Ambrose, the "Father of Personal Audio," who pioneered in-ear monitors, trailblazing the path for the invention of other products such as the Walkman, iPod, and virtual reality devices. However, given the epidemic of hearing loss in the music world, Stephen Ambrose is now focused on developing technology that not only augments listening, but also preserves hearing.

Contact:

Steve Lebishcak, CEO  
Asius Technologies LLC  
1257 Whitehall Drive  
Boulder, CO 80504  
info@asiustechnologies.com  
720-204-2676

###