



## Case Study: GORE® Acoustic Vents in Wireless Headphones

# Quick and Easy Solution Averts Commercial Sales Stoppage

### ? CHALLENGE

A notable global audio products company discovered, over a four-month period, the number of warranty claims made for their new wireless headphones were exceptionally high. **Consumers complained that the product would stop working intermittently due to sweat or rain intrusion into the microphone/volume**

**adjust module.** In some instances, the moisture caused permanent damage resulting in bad performance as well as intermittent or total product failure. To avoid compromising their reputation, the client proactively halted the production and recalled all existing products from retail and online stores – then asked us for advice.

“Several of my teammates and I were visiting this large OEM in the US to offer a technical presentation. At the conclusion of that meeting we were opportunistically whisked away and asked to move to another building where a room full of engineers were waiting for us with a really important water ingress issue to discuss.

It was clear how critically important it was for them to get the problem fixed.

**Following a series of questions, answers, and proposed vent part design options we determined a likely viable solution on the spot.** It was intoxicating – such great teamwork and great fun!”

**Jim Baker, Sales/  
Business Development  
Associate in the  
United States**

GORE® Acoustic  
Vents product  
model GAW112





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### SOLUTION

Once the client outlined their requirements, the Gore team understood that a protection against dust and splash (IP53) of the device would be sufficient to solve the occurring issues. There was no need for immersion protection that, as a trade-off, might compromise sound quality which was the client's number one priority. **Therefore, Gore Application Engineers suggested using GORE® Acoustic Vent product model GAW112, as it provides a low level of attenuation while reliably preventing the ingress of water or sweat.**

"It's key to listen closely to the Customers' application requirements to recommend the most suitable Gore solution. At Gore, our business is not about trying to sell the latest vent technology – or the one with the highest IP rating or other technical attributes if it doesn't meet the customers' needs."

**John DiMeo, Application Engineer Leader  
in the United States**

#### THE VENT: GORE® ACOUSTIC VENT GAW112

The vent used in this project was the GORE® Acoustic Vent product model GAW112 with a reference thickness of 0.24 mm. Suited for dust and splash protection, these vent parts provide a comparative water spray efficiency of 75%. The average acoustic impedance is 105 rayls MKS while maximum transmission loss is less than 2 dB.

For more information on our standard vents visit our product page:

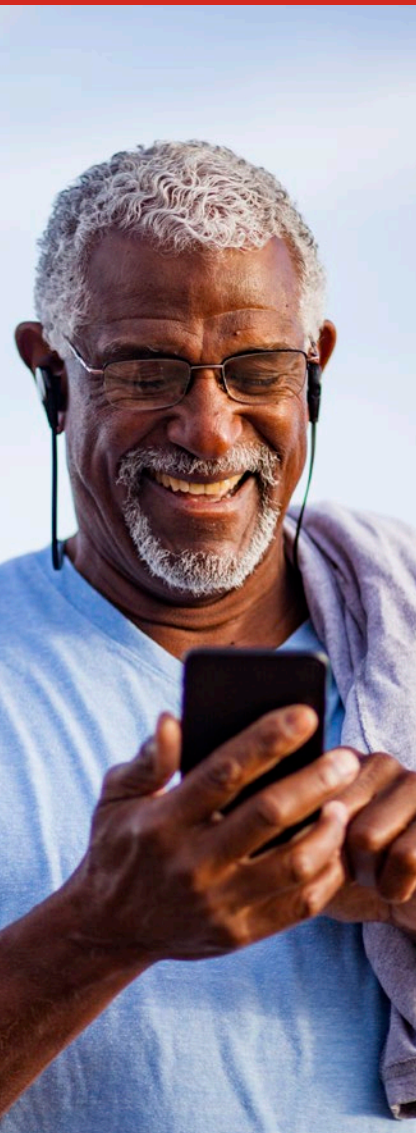
[www.gore.com/products/gore-acoustic-vents](http://www.gore.com/products/gore-acoustic-vents).

Beyond instantly finding a viable solution, the Gore team also ensured it to be put into practice almost immediately:

"We actually had those initial GAW112 samples shipped to the Engineering Director's home address with Saturday Delivery so that the Director was able to take the samples with him to their production site in China on Monday of the following week.

As our vent design was confirmed and validated, we shifted our focus to the OEM's contract manufacturer in China, where our global team was able to seamlessly support the supply chain needs that had quickly emerged. Our Gore teammates in China also worked closely with the client's CM providing technical support to ensure that the parts were installed correctly."

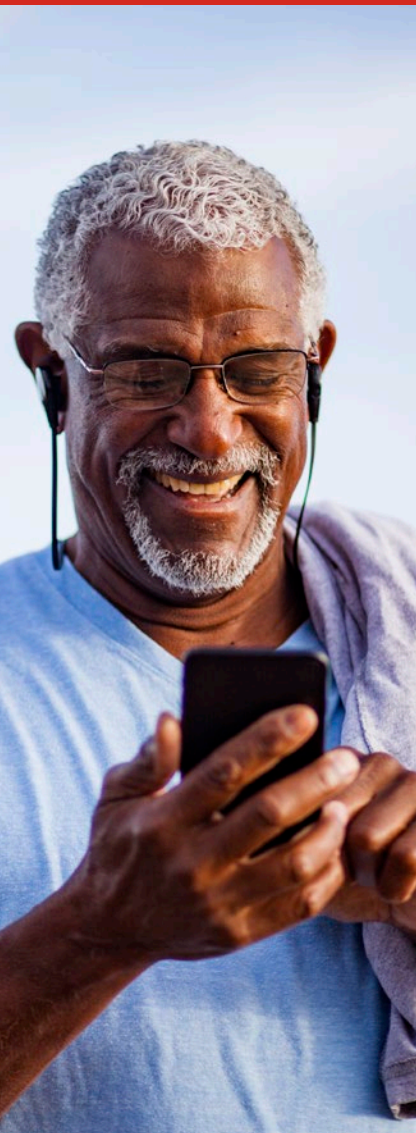
**Jim Baker, Sales/Business Development Associate  
in the United States**





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### ★ RESULTS

The Gore team was able to resolve the issue that the client faced in a matter of days by installing the GAW112 vent as a “drop-in replacement”.

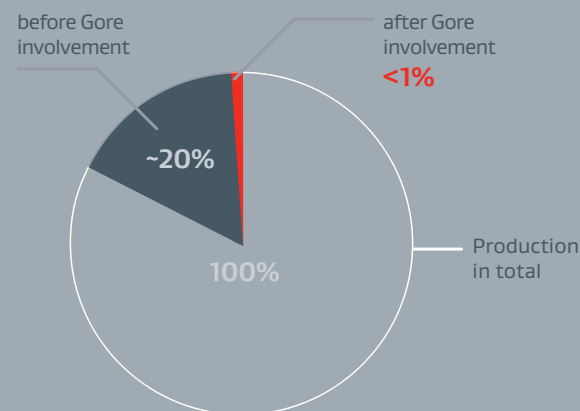
The wins:

- Before Gore involvement:  
**~20% product fallout**
- After Gore involvement:  
**<1% product fallout**
- Water and sweat ingress were virtually eliminated
- Acoustic performance improved compared to the formerly used competitive product
- A lengthy commercial sales stoppage and potential reputational damage were averted
- Supply chain security in China was ensured

“Bottom line: We were able to produce and ship custom made acoustic vent samples that met the customer’s needs in 48 hours. This project is a prime example of what great teamwork looks like.”

**Jim Baker, Sales/Business Development in the United States**

Product fallout with and without GAW112



#### WANT TO KNOW MORE?

Learn more about GORE® Acoustic Vents on our website:  
[gore.com/products/gore-acoustic-vents](https://gore.com/products/gore-acoustic-vents)

Or find out more about our experience from exciting projects:  
[gore.com/me-stories](https://gore.com/me-stories)



# Why Choose GORE® Portable Electronic Vents for Your Electronic Devices?

Leading OEMs have specified over 5 billion GORE® Portable Electronic Vents because they know our products and services can help accelerate their development of innovative and differentiated devices in fast-paced, highly competitive markets.

## PRODUCT AND APPLICATION LEADERSHIP

Grounded in a deep understanding of material science and acoustics, Gore can provide the optimum venting solution. We balance trade-offs between diverse problems such as adverse operating environments, immersion events and acoustic performance.

## RELIABLE PERFORMANCE

To ensure products are “fit for use”, every Gore product must adhere to the highest standards of quality, performance and reliability. Through a comprehensive understanding of end-use applications and requirements, our products do what they say they will do.

## FAST DEVELOPMENT

The mobile electronics industry develops and releases new products quickly. Our fast response to customer requests during the development process sets us apart. Gore supports this need for quickness with designs and prototypes to ensure engineering teams can meet their project timelines and their application requirements.

## SUPPLY SECURITY

Leading OEMs specify Gore because we have consistently proven our ability to quickly ramp up to supply vents for projects of over 10 million devices per year and to continue to supply high quality products on-time without disruption.

## MATERIAL SCIENCE

Gore is a global materials science company dedicated to transforming industries and improving lives. Gore develops materials with microporous structures that provide desirable attributes and performance characteristics to engineer vents and other products used in a variety of markets and industries.

## GLOBAL SUPPORT

Our global teams of sales associates, application engineers, manufacturing engineers, and research personnel enable us to provide agile and robust support to customers around the world.

## Interested in Testing our Products or Talking to our Experts?

For additional assistance, please contact a Gore representative.

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