

# Bose Corporation

**Bose Corporation** /ˈboʊz/ is a privately held American corporation, based in Framingham, Massachusetts, that designs, develops and sells audio equipment. Founded in 1964 by Amar Bose, the company sells its products throughout the world. Forbes estimates that in the 2016 financial year, Bose received revenue of US\$3.8 billion<sup>[3]</sup> and employed approximately 2,400 people.<sup>[4]</sup>

Bose is best known for its home audio systems and speakers,<sup>[5]</sup> noise cancelling headphones,<sup>[5]</sup> professional audio systems<sup>[6]</sup> and automobile sound systems.<sup>[7]</sup> The company has also conducted research into suspension technologies for cars<sup>[8]</sup> and heavy-duty trucks<sup>[9]</sup> and into the subject of cold fusion.<sup>[10]</sup> Bose has a reputation for being particularly protective of its patents, trademarks, and brands.

A majority of Bose Corporation's non-voting shares were given by Amar Bose in 2011 to his alma mater and former employer, the Massachusetts Institute of Technology. They receive cash dividends, but are prohibited from selling the shares and are unable to participate in the management and governance of the company.

## Contents

- 1 History**
  - 1.1 Formation
  - 1.2 Early years
  - 1.3 Research history
  - 1.4 Presidents
  - 1.5 Stock donation to MIT
  - 1.6 Succession
- 2 Stores**
- 3 Facilities**
- 4 Specialized products**
  - 4.1 Car audio
  - 4.2 Noise cancelling headphones
  - 4.3 Smartphone application
  - 4.4 Automotive suspension system
  - 4.5 Seat suspension system for truck drivers
  - 4.6 Professional audio systems
  - 4.7 Electroforce
  - 4.8 Military applications
- 5 Home audio & video products**
  - 5.1 Music and speaker systems
  - 5.2 Home entertainment systems
- 6 Technical specifications**

### Bose Corporation

<b><i>BOSE</i></b> <sup>®</sup>	
<b>Type</b>	Private
<b>Industry</b>	Consumer electronics
<b>Founded</b>	1964
<b>Founder</b>	Amar Bose <sup>[1]</sup>
<b>Headquarters</b>	Framingham, Massachusetts, U.S.
<b>Key people</b>	Philip W. Hess, President/CEO
<b>Products</b>	Loudspeakers, headphones, audio equipment, car audio, Professional audio
<b>Revenue</b>	<span style="color: green;">▲</span> US\$ 3.8 billion (2016) <sup>[2]</sup>
<b>Number of employees</b>	2,400 (2016) <sup>[2]</sup>
<b>Website</b>	www.bose.com (http://www.bose.com)

- 7 **Reception**
- 8 **Legal action**
- 9 **References**
- 10 **External links**

## History

---

### Formation

The company was founded in 1964<sup>[11]</sup> by Amar Bose. Eight years earlier, Bose, then a graduate student at MIT, had purchased a stereo system and was disappointed with its performance. This led him to research the importance of reverberant (indirect) sound on perceived audio quality.<sup>[12]</sup>

### Early years

Bose began extensive research aimed at clarifying factors that he saw as fundamental weaknesses plaguing high-end audio systems. The principal weaknesses, in his view, were that overall, the electronics and speaker failed to account for the spatial properties of the radiated sound in typical listening spaces (homes and apartments) and the implications of spatiality for psychoacoustics, i.e. the listener's head as a sonic diffraction object as part of the system. Eight years later, he started the company, charging it with a mission to achieve "Better Sound Through Research", now the company slogan.

In an interview in 2007 Bose talked about an early review that kept the company alive.

"One magazine in the United States, High Fidelity, a really credible magazine, had one reviewer named Norman Eisenburg who really knew his music. In those days I used to take the loudspeaker to the reviewer. I packed my son and loudspeaker in the car and went off. I put this little thing on top of the big speakers he had, turned it on, and within five minutes he said: 'I don't care if this is made of green cheese, it's the best sound, most accurate sound, I've ever heard.' He came out with a review titled 'Surround and Conquer'.<sup>[13]</sup> He was not known to do things like that. Everybody in the press knew he knew music, and it resulted in rave reviews one after another, and we were able to survive."<sup>[14]</sup>

### Research history

Bose's first loudspeaker product, the model 2201,<sup>[15]</sup> dispersed 22 small mid-range speakers over an eighth of a sphere. It was designed to be located in the corner of a room, using reflections off the walls to increase the apparent size of the room. An electronic equalizer was used to flatten the frequency spectrum of this system. The results of listening tests were disappointing.<sup>[15]</sup>

After this research, Bose came to the conclusion that imperfect knowledge of psychoacoustics limited the ability to adequately characterize quantitatively any two arbitrary sounds that are perceived differently, and to adequately characterize and quantify all aspects of perceived quality. He believed that distortion was overrated as a factor in perceived quality in the complex sounds that comprised music. Similarly, he did not find measurable relevance to perceived quality in other easily measured parameters of loudspeakers and electronics, and therefore did not publish those specifications for Bose products. The ultimate test, Bose insisted, was the listener's perception of audible quality (or lack of it) and his or her own preferences.<sup>[16][17]</sup> This reluctance to publish information was due to Bose's rejection of these measurements in favour of "more meaningful measurement and evaluation procedures".<sup>[18]</sup>

Bose conducted further research into psychoacoustics that eventually clarified the importance of a dominance of reflected sound arriving at the head of the listener, a listening condition that is characteristic of live performances. This led to a speaker design that aimed eight identical mid-range drivers (with electronic equalization) at the wall behind the speaker, and a ninth driver towards the listener. The purpose of this design was to achieve a dominance of reflected over direct sound in home listening spaces. The pentagonal design used in the Model 901 was, and remains, unconventional compared with most systems, where mid-range and high-frequency speakers directly face the listener.<sup>[19]</sup>

The Model 901 premiered in 1968 and was an immediate commercial success, and Bose Corporation grew rapidly during the 1970s. The Bose 901 has been in continuous production since 1968, second only to the Klipsch Klipschorn speaker in longevity of continuous production.<sup>[20]</sup>

## Presidents

1. William (Bill) Zackowitz (1964–66)
2. Charles "Chuck" Hieken (1966–69)
3. Frank E. Ferguson (1969–76)
4. Amar G. Bose (1976–80)
5. Sherwin Greenblatt (1980–2000)<sup>[15]</sup>
6. John Coleman (2000–05)
7. Bob Maresca (2005–)

## Stock donation to MIT

The late founder Amar Bose was the company chairman and the primary stockholder until he donated the majority of the firm's non-voting shares to his former employer and alma mater, the Massachusetts Institute of Technology, in 2011. An annual cash dividend is paid out to "advance the research and education mission of MIT". However, the conditions of receiving the shares stated that MIT was not allowed to sell them, nor was MIT permitted to participate in the company's management and governance.<sup>[21][22][23]</sup>

## Succession

Founder and company chairman Amar G. Bose died in July 2013 in his home in Wayland, Massachusetts at the age of 83.<sup>[24]</sup> He was succeeded as Chairman of the Board by Bob Maresca.

## Stores

---

In 1993 Bose opened its first store in Kittery, Maine. Since then, Bose has opened 190 stores in the U.S. and numerous locations worldwide. In Britain there are eleven standard Bose retail stores, including one on Regent Street and seven so called 'factory outlets'.<sup>[25]</sup>

## Facilities

---

The company's corporate headquarters complex is known as "The Mountain", and located in Framingham, Massachusetts. The company runs facilities in Framingham, Westborough and Stow (all in Massachusetts<sup>[26]</sup>).

Bose products are generally manufactured in one of four plants. Bose Corporation owns two of the factories – in Framingham and Tijuana, Mexico.

Two other manufacturing and development operations, employing approximately 3,500 people, are located in San Luis Río Colorado, Mexico (opened in 1990) and Batu Kawan, Malaysia (opened in 2013). They produce selected headphones, wireless speakers, home-theatre systems and professional audio products. The Batu Kawan facility also serves as a distribution hub for Bose's Asia-Pacific and Middle East business.<sup>[27]</sup> In June 2016, it was announced that these facilities would be purchased by contract manufacturer Flextronics (now Flex), which will take over current and planned Bose production in the two factories.<sup>[28]</sup>



Bose retail store in Century City

In 2015, two facilities in Columbia, South Carolina and Carrickmacross, Ireland, were closed (with the loss of 300 and 140 jobs respectively), as part of a "global streamlining of Bose's supply chain. Bose used the Columbia facility, which opened in 1993, for distribution and repair, sub-manufacturing and regional manufacturing, and final assembly for some headsets. The Carrickmacross factory, which began operations in 1978, did final assembly for some home theatre systems, Wave radios, and other regional manufacturing.<sup>[29]</sup>

## Specialized products

### Car audio

In 1983 Bose introduced the industry's first custom-engineered, factory-installed sound systems in the 1983 Cadillac Seville, Cadillac Eldorado, Buick Riviera and Oldsmobile Toronado.<sup>[30]</sup> In these early systems, Bose customized each installation by building the speaker enclosure and adjusting the frequency response for each vehicle. Bose produces a range of speakers and audio products for automotive use. At the 2007 auto show in Geneva, Switzerland, Bose launched a new media system—incorporating stereo, navigation, and hands free calling—with the Ferrari 612 Scaglietti.<sup>[31][32][33][34]</sup> In 2007, the Bose media system won the International Telematics Award for the "Best Storage Solution for In-Car Environment".<sup>[35]</sup>



Bose Car Audio

Some automotive manufacturers that have used in the past or currently use Bose car audio products are: Acura, Alfa Romeo, Audi, Buick, Cadillac, Chevrolet, Ferrari, Fiat, GMC, Holden, Honda, Infiniti, Mazda, Maybach, Mercedes-Benz, Nissan, Oldsmobile, Opel, Pontiac, Porsche, Renault, Rolls Royce, and Volkswagen.

### Noise cancelling headphones

Bose makes noise-cancelling headphones that have been lauded for their performance.<sup>[36]</sup> Bose makes noise-canceling aviation headsets, which have been used in the Space Shuttle to help prevent astronaut hearing damage.<sup>[37]</sup>

## Smartphone application

A smartphone application called "Bose Connect" is promoted to users of the company's noise-cancelling headphones. The application has a privacy policy that states that it does not collect personally identifying information. A 2017 lawsuit against Bose alleges that the application monitors what kind of audio the user plays on their phone. The complainant says that people who play religious devotional music, or podcasts on politics or sexual topics, can be tracked according to their religion, political beliefs or sexual orientation.<sup>[38][39]</sup>



Bose QuietComfort 25 Acoustic Noise Cancelling Headphones

## Automotive suspension system

Bose conducts research into using electromagnetic motors in place of conventional (hydraulic or air) automotive suspension systems.

The system was due for release in 2009,<sup>[40][41]</sup> but there are no vehicles in production using the system.

This research is based on two-state, non-linear power processing and conditioning. In 2004, Bose unveiled a prototype application of the technology<sup>[42]</sup> after more than 20 years of research. The system uses electromagnetic linear motors to raise or lower the wheels of an automobile in response to uneven bumps or potholes on the road.<sup>[43]</sup> Within milliseconds, the wheels are raised when approaching a bump, or extended into a pothole, thus keeping the vehicle more level. This technology uses similar principles to noise cancelling technology for speakers and earphones. The unevenness of the road is sensed, and processed much like a sound wave. A canceling wave is generated, which is applied to the wheels through the linear motors.<sup>[23]</sup> In a French interview, Bose even showed off the car jumping over an obstacle.<sup>[44]</sup> Bose said that the system is "high cost" and heavy, even after many years and \$100 million of development.<sup>[45][46]</sup>

## Seat suspension system for truck drivers

Bose applied its research in suspension systems to the problem of fatigue, back pain and physical stress experienced by truck drivers.<sup>[47]</sup> In 2010, Bose introduced Bose Ride,<sup>[48]</sup> an active system that reduces road-induced vibration in the driver's seat. Bose claimed as much as a 90% reduction in driver's seat vibration.<sup>[49]</sup>

## Professional audio systems

**Bose Professional** designs and manufactures audio components for AV system integrators and consultants that specify and install sound systems for commercial and portable settings such as stadiums, houses of worship, performing arts theaters, auditoriums, retail stores, restaurants, and meeting rooms. Though Bose commercial audio equipment has not been approved for use in studios or movie theaters that carry THX certification (due to never applying),<sup>[50]</sup> the division accounts for about 60% of Bose's annual revenue.<sup>[51]</sup> In 1988, Bose became the first company to pay for the title of official Olympics sound system supplier, providing audio equipment for the Winter Olympics in Calgary, and again four years later in Albertville, France, the latter installed and maintained by company subsidiary Bose France.<sup>[52][53]</sup>

## Electroforce

In 2004 Bose acquired company assets related to the development, manufacture and sales of materials testing equipment, founding the ElectroForce Systems Group,<sup>[54]</sup> which provides materials testing and durability simulation instruments to research institutions, universities, medical device companies and engineering organizations worldwide.

## Military applications

Bose has contracts with the U.S. military<sup>[55][56]</sup> and NASA.<sup>[57]</sup>

## Home audio & video products

With respect to sales in the U.S. for home audio retail home theater systems (speaker and receiver combination systems) and portable audio sales, Bose was respectively ranked first and third in 2012.<sup>[58]</sup> Unlike "high-end" home theater systems that use separate components,<sup>[59]</sup> Bose multimedia TV systems combine the processing and amplification into a single unit.



The Bose SoundLink Mini uses Bluetooth to play audio from cell phones and other portable devices

## Music and speaker systems

- SoundLink
- SoundDock
- Computer speakers
- Headphones
- Wave systems

## Home entertainment systems

- 5.1 systems
- 2.1 systems
- Surround sound speakers

## Technical specifications

Amar Bose believed that traditional measures of audio equipment are not relevant to perceived audio quality and therefore did not publish the specifications for Bose products, claiming that the ultimate test was the listener's perception of audio quality according to the listener's preferences.<sup>[14][60]</sup> In 1968, Bose presented a paper to the Audio Engineering Society titled "On the Design, Measurement and Evaluation of Loudspeakers". In this paper, he rejected numerical test data in favor of "more meaningful measurement and evaluation procedures".<sup>[60]</sup> This is still the company's philosophy. Many other audio product manufacturers publish numerical test data of their equipment, but Bose does not.<sup>[17]</sup>

## Reception

In some non-audio related publications, Bose has been cited as a producer of "high-end audio" products.<sup>[61]</sup> Commenting on Bose's "high-end" market positioning among audiophiles (people concerned with the best possible sound), a *PC Magazine* product reviewer stated "not only is Bose equipment's sound quality not up to audiophile standards, but one could buy something that does meet these stringent requirements for the same price or, often, for less."<sup>[62]</sup> Bose has not been certified by THX for its home entertainment products<sup>[63]</sup> even though its more expensive home theater products compete at prices where THX certification is common. Also unlike other competing products, Bose does not provide technical specifications such as frequency response, audio crossover, and acoustic impedance for its products.

Some other views include:

- Bose's flagship 901 speaker system was criticized by *Stereophile* magazine in 1979.<sup>[64]</sup> In its review, the magazine stated that the system was unexceptional and unlikely to appeal to perfectionists with a developed taste in precise imaging, detail, and timbre; and that these shortcomings were an excessive price to pay for the improvement in impact and ambiance generated by the large proportion of reflected sound [to on-axis sound]. However, the author also stated that the system produced a more realistic resemblance of natural ambiance than any other speaker system. A more recent positive review by TONE Audio found that the 901 was better than expected and a good value at the \$1,400 price. Of note, the speakers could not be found at local retailers and had to be special ordered.<sup>[65]</sup>
- A 2005 market study published by Forrester Research reported that Bose's brand name was among several computer and consumer electronics brands most trusted by US consumers including Dell and Hewlett-Packard.<sup>[66]</sup>
- A 2007 review in *Audioholics* online magazine reiterated that Bose was very expensive for its performance. Of the Bose Lifestyle V20 Home Theater System the reviewer wrote, "The Bose system is very expensive at nearly \$2,000 and the sound quality isn't really any better than many other surround systems costing a third of the price... the smaller [bass] cones cannot reproduce lower tactile [sic] frequencies." The review included an interview with a Best Buy sales manager who suggested from his experience that, despite his directing customers to a better-sounding and less expensive alternative, some customers insisted on Bose.<sup>[67]</sup>
- A July 2012 review by NBC News of the \$5,000 46" Bose TV noted that the video screen, produced by Samsung, resembled most closely a \$750 flat panel television, and that the technology used was not up to par with other screens in the same category. The review then questioned the value of the additional \$4,250 cost for the Bose TV, suggesting there were compelling audio alternatives for less than 1/5th the price difference.<sup>[68]</sup> The same system received a positive review by PC Magazine that cited the user interface and sound quality in an unobtrusive design.<sup>[69]</sup>
- In July 2013, *iLounge* wrote about the Bose Soundlink Mini, a small remote speaker competing against inexpensive, low-end audio devices, that "Audio quality is SoundLink Mini's real trump card over Jambox and most—not all—of its competitors... SoundLink Mini delivers much deeper bass and cleaner mid-bass at all volumes, suffering from noticeable distortion solely at the top of its volume scale."<sup>[70]</sup>

## Legal action

Bose has been described by audio industry professionals as a litigious company.<sup>[71][72][73][74]</sup> In 1981, Bose unsuccessfully sued the magazine *Consumer Reports* for libel. *Consumer Reports* reported in a review that the sound from the system that they reviewed "tended to wander about the room." Initially, the Federal District Court found that *Consumer Reports* "had published the false statement with knowledge that it was false or with reckless disregard of its truth or falsity" when it changed what the original reviewer wrote about the speakers in his pre-publication draft, that the sound tended to wander "along the wall." The Court of Appeals then reversed the trial court's ruling on liability, and the United States Supreme Court affirmed in a 6–3 vote in the case *Bose Corp. v. Consumers Union of United States, Inc.*, finding that the statement was made without actual malice, and therefore there was no libel.<sup>[75][76][77]</sup> In an interview decades later Bose said "We had 37 people at the time. I gathered them in one room and said, 'If we don't do anything, it will probably kill us. But if we do something, we have no credibility since we're just a small company and we can't do anything against this.' I said I think we oughtta do something. I wanted a vote. It was unanimous in favor of taking action. Little did we know it would take 14 years to go through the legal process."<sup>[14]</sup>

Bose sued Thiel Audio in the early 1990s to stop the audiophile loudspeaker maker from using ".2" (point two) at the end of its product model "CS2.2". To comply with Bose's trademark of ".2" associated with the Bose Model 2.2 product,<sup>[78]</sup> Thiel changed their model name to "CS2 2", substituting a space for the decimal point.<sup>[79]</sup> Bose did not trademark ".3" so in 1997 when Thiel introduced the next model in the series, they named it the "Thiel 2.3", advertising "the return of the decimal point."<sup>[80]</sup>

In 1996, Bose sued two subsidiaries of Harman International Industries—JBL and Infinity Systems—for violating a Bose patent on elliptical tuning ports on some loudspeaker products.<sup>[72]</sup> In 2000, the court determined that Harman was to cease using elliptical ports in its products, and Harman was to pay Bose \$5.7 million in court costs.<sup>[72]</sup> Harman stopped using the disputed port design but appealed the financial decision. At the end of 2002, the earlier judgment was upheld but by this time Bose's court expenses had risen to \$8 million, all to be paid by Harman.<sup>[78]</sup>

Bose was successful in blocking QSC Audio Products from trademarking the term "PowerWave" in connection with a certain QSC amplifier technology. In 2002, a court decided that the "Wave" trademark was worthy of greater protection because it was well-known on its own, even beyond its association with Bose.<sup>[81]</sup>

In 2003, Bose sued the non-profit electronics trade organization CEDIA for use of the "Electronic Lifestyles" trademark,<sup>[71]</sup> which CEDIA had been using since 1997. Bose argued that the trademark interfered with its own "Lifestyle" trademark.<sup>[82]</sup> Bose had previously sued to protect its "Lifestyle" trademark beginning in 1996 with a success against Motorola and continuing with settlements against New England Stereo, Lifestyle Technologies, Optoma and AMX.<sup>[83]</sup> In May 2007, CEDIA won the lawsuit after the court determined Bose to be guilty of laches (unreasonable delays), and that Bose's assertions of fraud and likelihood of confusion were without merit.<sup>[84]</sup> CEDIA was criticized for spending nearly \$1 million of its member's money on the lawsuit, and Bose was criticized for "unsportsmanlike action against its own trade association", according to Julie Jacobson of *CE Pro* magazine.<sup>[83]</sup>

In July 2014, Bose sued Beats Electronics for patent infringement, alleging that its "Studio" headphones line incorporated Bose noise cancellation technology.<sup>[85][86]</sup> Bose and Apple had collaborated on the SoundDock for iPod music players in 2004, then in May 2014 Beats was bought by Apple, bringing Bose and Apple into direct competition in the headphones market. Bose headphones were once the foremost brand offered in Apple stores, but Beats headphones outnumbered Bose headphones in Apple stores at the time of the lawsuit, and Beats had captured 60% of the market while Bose held 25%.<sup>[87]</sup> In October 2014, Bose dropped the lawsuit, as Bose and Beats settled out of court without revealing the terms.<sup>[88][89][90]</sup> Apple removed all Bose products from its Apple stores a few days after the lawsuit was settled,<sup>[91]</sup> but two months later Bose products were returned to shelves.<sup>[92]</sup>

In April 2017 Bose was sued alleging a privacy violation with regard to the mobile phone apps delivered by Bose to control bluetooth Bose headphones.<sup>[93]</sup>

## References

- <sup>1</sup>. "Spotlight: Amar Bose, the guru of sound design" (<https://www.nytimes.com/2007/05/11/business/worldbusiness/11iht-wbspot12.1.5665506.html?pagewanted=all>), *International Herald Tribune*, May 11, 2007. Retrieved November 17, 2012
- <sup>2</sup>. "Bose on the Forbes America's Largest Private Companies List" (<https://www.forbes.com/companies/bose/>) *Forbes*, 2016. Retrieved August 21, 2016<
- <sup>3</sup>. "Bose Worldwide" (<http://global.bose.com/>). *Bose Corporation website*. Retrieved 24 November 2014.
- <sup>4</sup>. "Number of Employees" ([http://worldwide.bose.com/com/en\\_us/web/our\\_achievements/page.html](http://worldwide.bose.com/com/en_us/web/our_achievements/page.html)). *Bose Corporation website*. Retrieved 24 November 2014.
- <sup>5</sup>. "Founder of Mass.-based Bose audio firm dies at 83" (<http://bigstory.ap.org/article/founder-mass-based-bose-audio-firm-dies-83>). *Associated Press: The Big Story*. 12 July 2013.
- <sup>6</sup>. "Bose Knows a Bit About Pro" (<http://www.fohonline.com/current-issue/25-the-biz/10834-bose-knows-a-bit-about-pro.html>). *FOH Online*. July 2014.
- <sup>7</sup>. "The history of Bose in-car audio, from an '83 Seville, to the 2015 Escalade" (<http://www.digitaltrends.com/home-theater/history-bose-car-audio-83-seville-2015-escalade>). *Digital Trends*. 8 October 2014.
- <sup>8</sup>. "Bose at 50: beyond sound" (<http://www.telegraph.co.uk/technology/technology-topics/11138572/Bose-at-50-beyond-sound.html>). *The Telegraph*. 3 October 2014.
- <sup>9</sup>. "Study of Bose Ride System Indicates Reduction in Back Pain for Drivers" (<http://www.truckinginfo.com/channel/drivers/product/detail/2014/03/study-of-bose-ride-system-indicates-reduction-in.aspx>). *Heavy Duty Trucking: Truckinginfo*. 27 March 2014.
- <sup>10</sup>. "Bose Once Debunked Cold Fusion. Yes, that Bose" (<http://mashable.com/2014/10/05/bose-cold-fusion>). *Mashable*. 5 October 2014.
- <sup>11</sup>. "Bose - Better Sound Through Research" ([http://www.bose.com/controller?event=view\\_static\\_page\\_event&url=/about/history/index.jsp%3E](http://www.bose.com/controller?event=view_static_page_event&url=/about/history/index.jsp%3E)).



12. Lemley, Brad (2004-10-01). "Amar Bose Interview" (<http://discovermagazine.com/2004/oct/discover-dialogue>). Discovermagazine.com. Retrieved 2012-10-21.
13. [http://dreamandreach.bose.com/en\\_US/explore/categories/home-audio/surround-conquer](http://dreamandreach.bose.com/en_US/explore/categories/home-audio/surround-conquer)
14. Seth Porges (2007-09-19). "Dr. Bose Tells All: Company Secrets, Why They Don't Publish Specs, And More" (<https://techcrunch.com/2007/09/19/dr-bose-tells-all-company-secrets-why-they-dont-publish-specs-and-more/>). Techcrunch.com. Retrieved 2012-10-21.
15. "University of Massachusetts: Pioneers of Innovation – Sherwin Greenblatt Conversation" ([https://web.archive.org/web/20121202021055/http://www.massachusetts.edu/uncommonleadership/greenblatt\\_conversation.html](https://web.archive.org/web/20121202021055/http://www.massachusetts.edu/uncommonleadership/greenblatt_conversation.html)). Massachusetts.edu. Archived from the original ([http://www.massachusetts.edu/uncommonleadership/greenblatt\\_conversation.html](http://www.massachusetts.edu/uncommonleadership/greenblatt_conversation.html)) on December 2, 2012. Retrieved 2012-10-21.
16. Amar Bose (1968). "On The Design, Measurement, and Evaluation of Loudspeakers" (<http://www.aes.org/e-lib/browse.cfm?elib=1390>). Aes.org. Retrieved 2012-10-21.
17. "Gadget Guy Review of the Bose Wave Music System" (<http://beta2.gadgetguy.com.au/product/bose-wave-music-system/>).
18. Home. "AES paper" (<http://www.aes.org/e-lib/browse.cfm?elib=1390>). Aes.org. Retrieved 2012-10-21.
19. "Bose 901 Direct/Reflecting Speaker System" ([http://www.bose.com/prc.jsp?url=/shop\\_online/speakers/stereo\\_speakers/901\\_speakers/index.jsp](http://www.bose.com/prc.jsp?url=/shop_online/speakers/stereo_speakers/901_speakers/index.jsp)). Bose. Retrieved 2016-01-29.
20. "Soundbars & Wireless Home Theater Surround Sound Systems - Bose" ([http://www.bose.com/controller?url=/shop\\_online/speakers/stereo\\_speakers/901\\_speakers/index.jsp](http://www.bose.com/controller?url=/shop_online/speakers/stereo_speakers/901_speakers/index.jsp)).
21. "Gift to MIT" (<http://newsoffice.mit.edu/2011/bose-gift>). *MIT website*. 29 April 2011.
22. Gift to MIT from Amar Bose raises Tax Questions, by Stephen Stom, New York Times 30 April 2011
23. "A car that can jump over obstacles" (<http://www.msnbc.msn.com/id/10217088/>). MSNBC. 2005-11-28. Retrieved 2012-10-21.
24. Rifkin, Glenn (July 12, 2013). "Amar G. Bose, Acoustic Engineer and Inventor, Dies at 83" (<https://www.nytimes.com/2013/07/13/business/amar-g-bose-acoustic-engineer-and-inventor-dies-at-83.html>) – via NYTimes.com.
25. "BOSE opens its first concept store in Greenbelt 5 Makati" (<http://www.mb.com.ph/articles/219590/bose-opens-its-first-concept-store-greenbelt-5-makati>). *Mb.com.ph*. Manila Bulletin. 2009-09-08. Retrieved 2012-10-21.
26. "bizjournals.com – Bose nixes N.Y. expansion, chooses Stow instead" (<http://boston.bizjournals.com/boston/stories/2005/09/19/story4.html>). Boston.bizjournals.com. Retrieved 2012-10-21.
27. "Bose to open manufacturing plant in Malaysia" (<https://in.news.yahoo.com/bose-open-manufacturing-plant-malaysia-120924436.html>). Retrieved 2016-08-21.
28. "Bose Selling Pair Of Factories To Flex" (<http://www.twice.com/news/audio/bose-selling-pair-factories-flex/61897>). 2016-06-17. Retrieved 2016-08-21.
29. "Bose in Columbia to close in September" (<http://www.thestate.com/news/business/article13941380.html>). Retrieved 2016-08-21.
30. "Bose Global Press Room - Bose Celebrates 30 Years of Automotive Sound" (<https://globalpressroom.bose.com/us-en/pressrelease/view/106>).
31. Frank Filipponio (2007-03-08). "Bose Media System debuts in Ferrari 612 Scaglietti" (<http://www.autoblog.com/2007/03/08/bose-media-system-debuts-in-ferrari-612-scaglietti/>). Retrieved 2007-06-07.
32. "Bose seeks to offer Media System premium stereo in more cars" (<http://wot.motortrend.com/6244229/technology/bose-seeks-to-offer-media-system-premium-stereo-in-more-cars/index.html>). Wot.motortrend.com. 2008-04-25. Retrieved 2012-10-21.
33. [bose media system](http://technabob.com/blog/2007/03/09/bose-media-system-sophisticated-car-audio/) (<http://technabob.com/blog/2007/03/09/bose-media-system-sophisticated-car-audio/>) sophisticated car audio "Audio gear maker Bose is showing off their latest in car audio systems, the high-end Bose Media System."
34. [edmunds – 2008 Ferrari 612 Scaglietti Review](http://www.edmunds.com/ferrari/612scaglietti/2008/review.html) (<http://www.edmunds.com/ferrari/612scaglietti/2008/review.html>) Archived (<https://web.archive.org/web/20090130053118/http://www.edmunds.com/ferrari/612scaglietti/2008/review.html>) January 30, 2009, at the [Wayback Machine](http://www.archive.org/).
35. "World News: Finalists revealed for the 2007 Telematics Awards TU-Automotive - Tracking Automotive Technology & Innovation" (<http://www.telematicsupdate.com/print.asp?news=55420>).

36. Carnoy, David (October 3, 2008). "Do Denon's new noise-canceling headphones beat Bose's Quiet Comfort models?" ([http://news.cnet.com/8301-17938\\_105-10057629-1.html](http://news.cnet.com/8301-17938_105-10057629-1.html)). *Crave*. CNET.com. Retrieved July 29, 2010.
37. "Amar Bose – Lemelson-MIT Program" (<http://lemelson.mit.edu/resources/amar-bose>). lemelson.mit.edu. Retrieved 2016-09-10.
38. "Your Bose headphones are spying on you, a new lawsuit alleges" (<http://www.nbcnews.com/news/us-news/bose-headphones-accused-lawsuit-spying-listeners-n748311>).
39. "Bose headphones spy on listeners: lawsuit" (<https://www.reuters.com/article/us-bose-lawsuit-idUSKBN17L2BT>). April 19, 2017 – via Reuters.
40. Harris, William (2005-05-11). "The Bose Suspension System" (<http://auto.howstuffworks.com/car-suspension9.htm>). Auto.howstuffworks.com. Retrieved 2012-10-21.
41. Walton, Chris. "Inside Line 'Bose Suspension'" (<http://www.edmunds.com/insideline/do/Features/articleId=103183>). Edmunds.com. Retrieved 2012-10-21.
42. "Popular Science" magazine, December 2004
43. [Bose bumps](https://www.youtube.com/watch?v=sjojsrI5Gco) (<https://www.youtube.com/watch?v=sjojsrI5Gco>) on [YouTube](#)
44. [French Interview "Suspension BOSE"](https://www.youtube.com/watch?v=Lyf4rfT7bHU&NR) (<https://www.youtube.com/watch?v=Lyf4rfT7bHU&NR>) on [YouTube](#) (car jumping appears at 3:20)
45. "Best Bass Headphones" (<http://headphonescompared.com/best-bass-headphones/>). Retrieved 31 May 2015.
46. Shuldiner, Herb (November 30, 2007). "Bose Says Suspension Drawing Interest From OEMs" ([http://www.wardsauto.com/electronics/bose\\_suspension\\_oems/index.html](http://www.wardsauto.com/electronics/bose_suspension_oems/index.html)). WardsAuto.com. Retrieved July 31, 2010.
47. Williams, Stephen (January 29, 2010). "Bose's New System Is a Truck Seat" (<http://wheels.blogs.nytimes.com/2010/01/29/booses-new-system-is-a-truck-seat/>). *The New York Times*. Retrieved 2012-07-15.
48. Miles, Gerry (March 15, 2010). "Potholed Boston streets inspire Bose truck seat" ([http://www.boston.com/cars/newsandreviews/overdrive/2010/03/potholed\\_boston\\_roads\\_inspire.html](http://www.boston.com/cars/newsandreviews/overdrive/2010/03/potholed_boston_roads_inspire.html)). *Boston.com*. Retrieved 2012-07-15.
49. Vanderwerp, Dave (December 2010). "The Bose Ride Truck Seating System: Bose makes 'trucker butt' a thing of the past" (<http://www.caranddriver.com/features/tech-department-the-bose-ride-truck-seating-system-feature>). *Car and Driver*. Retrieved 2012-07-15.
50. "Approved Equipment Lists" (<http://www.thx.com/professional/sound-engineer/approved-equipment-lists/>). *Sound Engineer*. THX. Retrieved July 23, 2010.
51. *Plunkett's Entertainment and Media Industry Almanac 2009* (<https://books.google.com/books?id=wxeZaGcqdLUC&pg=PT216>). Retrieved 2012-10-21.
52. "olympic"&dq=Bose+"olympic" The Film journal (<https://books.google.com/books?id=I3HsAAAAMAAJ&q=Bose+>) Volume 93, Issues 7–12 "At the 1988 Winter Olympics in Calgary, Canada. Bose was the first company ever to be named official sound system supplier. This designation indicates that a company's products have been selected for purchase or lease by the Olympics" "Olympic Suppliers Bose Corporation was named official professional sound system supplier for the XVI Winter Olympic Games, to be held in Albertville. France in 1992"
53. "Bose Corporation – Company History" (<http://www.fundinguniverse.com/company-histories/Bose-Corporation-Company-History.html>). Fundinguniverse.com. Retrieved 2012-10-21.
54. "ElectroForce Systems Group" (<http://www.bose-electroforce.com/home.cfm>). Bose-electroforce.com. Retrieved 2012-10-21.
55. "Bose Headsets used by Sonar Operators" (<https://web.archive.org/web/20060830100250/http://www.headsets.in/bose-headset.htm>). Web.archive.org. 2006-08-30. Archived from the original (<http://www.headsets.in/bose-headset.htm>) on August 30, 2006. Retrieved 2012-10-21.
56. "Aerospace News" (<http://www.aerospacenews.com/content/view/257/66/>). Aerospace News. 2007-03-14. Retrieved 2012-10-21.
57. "Forbes Magazine Biography of Amar Bose" (<https://www.forbes.com/lists/2006/10/BVDT.html>). Forbes.com. 2006-02-13. Retrieved 2012-10-21.
58. "NPD Market Share Reports by Category" ([http://www.nxtbook.com/nxtbooks/newbay/twice\\_20130108/index.php?startid=74](http://www.nxtbook.com/nxtbooks/newbay/twice_20130108/index.php?startid=74)). Twice.com. Retrieved 2013-12-25.

59. "Home Theater 101 – Learning The Basics of Home Theater Systems" (<http://hometheaterreview.com/home-theater/>). *Home theater review*. Retrieved 2013-12-25. In this article, the publication states, "As the name suggests, the "separates" approach requires two boxes: a preamp/processor for signal input/processing and an amplifier (or multiple amplifiers) to power the speakers. The latter approach is more common amongst high-end audio enthusiasts who want more precise control over their system's performance, particularly in the amplification realm."
60. "On The Design, Measurement, and Evaluation of Loudspeakers" (<http://www.aes.org/e-lib/browse.cfm?elib=1390>). AES. 1968. Retrieved 2010-07-23.
61. • "C|Net "Classy compacts: high-end CD radios"" ([http://reviews.cnet.com/4520-7866\\_7-6218554-1.html](http://reviews.cnet.com/4520-7866_7-6218554-1.html)). *Reviews.cnet.com*. Retrieved 2012-10-21.
  - "Amar Bose, The world's richest people" (<https://www.forbes.com/lists/2006/10/BVDT.html>). *Forbes.com*. 2006-02-13. Retrieved 2012-10-21.
  - "High-End, Affordable and Adaptable" (<https://www.pcmag.com/article2/0,1895,1764153,00.asp>). *PCMag.com*. 2005-03-16. Retrieved 2012-10-21.
  - *Ignited* (<https://books.google.com/books?id=50V2ag7KtPYC&pg=PA178>): managers! light up your company and career for more power By Vince Thompson (pg 178) "Bose Corporation, the maker of high-end audio equipment"
  - *International business* (<https://books.google.com/books?id=xbm8BUKGu7MC&pg=PA470>): theory and practice By Riad A. Ajami, Karel Cool, G. Jason Goddard (pg 470) "In 2002, Loewe established its distribution in the United States. The distribution was set up in cooperation with another high-end manufacturer, Bose, a U.S. sound specialist."
  - *Popular Mechanics* (<https://books.google.com/books?id=5tIDAAAAMBAJ&pg=PA38>) Aug 2002 (pg 38) "Bose electronics, known for its tiny yet powerful Lifestyle home theater speaker and other high-end audio equipment"
62. Gideon, Tim (February 21, 2007), *Bose Companion 5 Multimedia Speaker System* (<https://www.pcmag.com/article2/0,2817,2097317,00.asp>), *PC Magazine.com*, retrieved July 27, 2010
63. "List of THX certified home entertainment products" (<http://www.thx.com/consumer/home-entertainment/thx-certified-products/>). *Consumer*. Retrieved July 23, 2010.
64. "Stereophile Review" (<http://www.stereophile.com/historical/425/index3.html>). *Stereophile.com*. Retrieved 2012-10-21.
65. "We Review the Bose 901... Magic or Myth?" (<http://www.tonepublications.com/review/we-review-the-bose-901/>). *TONEAudio.com*. Retrieved 2013-12-29.
66. "Forrester Research – "The 2005 Technology Brand Scorecard"" (<http://www.forrester.com/Research/Document/0,7211,38694,00.html>).
67. Robbins, Jim (December 24, 2007), *Bose Lifestyle V20 Home Theater System* (<http://www.audioholics.com/reviews/htib/bose-lifestyle-v20>), *Audioholics.com*, retrieved January 1, 2012
68. Merson, Gary (July 13, 2012), *TV in Bose's \$5,000 system resembles \$750 Samsung LCD* (<http://www.nbcnews.com/technology/tv-boses-5-000-system-resembles-750-samsung-lcd-880357>), *NBCNews.com*, retrieved August 16, 2013
69. Delaney, John R., "Bose VideoWave Entertainment System II (55-Inch)" (<https://www.pcmag.com/article2/0,2817,2418903,00.asp>), *PC Magazine*
70. Horowitz, Jeremy (July 8, 2013), *Bose SoundLink Mini Bluetooth Speaker* (<http://www.ilounge.com/index.php/reviews/entry/bose-soundlink-mini-bluetooth-speaker/>), *iLounge*, retrieved August 16, 2013
71. Bell, Ian (November 10, 2003) *Bose sues CEDIA over trademark* (<http://www.digitaltrends.com/home-theater/bose-sues-chedia-over-trademark/>). *Digital Trends*
72. Willis, Barry (September 10, 2000). "Harman Will Appeal Judgment on Bose Patent Infringement" (<http://www.stereophile.com/news/10842/>). *Stereophile*. Source Interlink Media.
73. Bulkeley, William M. (December 31, 1996). "Bose Packs Concert Acoustics Into Home-Speaker Systems" (<https://www.wsj.com/articles/SB851984520897814500>). *The Wall Street Journal*. "Among its competitors in the fragmented U.S. loudspeaker industry, Bose is feared and disliked... Bose's image isn't helped by its hard-line tactics... It has also sued many of its competitors for mimicking its ads or the look of its products. Bose is 'litigious and they patent everything that moves,' says Andrew Kotsatos, president of Boston Acoustics Inc., a speaker maker in Peabody, Mass. Mr. Kotsatos says Bose's lawyers objected to his company's use of the phrase 'invisible subwoofer' in advertising. 'We got a letter saying they had a trademark on the phrase "virtually invisible"' describing the Bose subwoofer. Thomas DeVesto, president of Cambridge Soundworks Inc., a Newton, Mass., speaker maker, says 'I have to be careful. Every time I say something about them, they sue.' To settle a Bose lawsuit, Cambridge had to agree to stop running ads boasting that its speakers were 'better than Bose at half the price.'"

74. Schneider, Chuck (August 19, 2013). "Bose: No Highs, No Lows, Just \$1B in Net Worth" ([http://www.cepro.com/article/bose\\_no\\_highs\\_no\\_lows\\_just\\_1b\\_in\\_net\\_worth/D2/](http://www.cepro.com/article/bose_no_highs_no_lows_just_1b_in_net_worth/D2/)). *CE Pro*.
75. Commentary on libel cases in general giving a specific example of *Bose Corp. v. Consumer's Union of United States*. (<http://www.mobar.org/fecee336-a405-41e8-9647-fe5deb9cba1d.aspx>) Archived (<https://web.archive.org/web/20060930170249/http://www.mobar.org/fecee336-a405-41e8-9647-fe5deb9cba1d.aspx>) September 30, 2006, at the [Wayback Machine](#).
76. "Opinion of the United States Supreme Court" (<http://supreme.justia.com/us/466/485/case.html>). Supreme.justia.com. Retrieved 2012-10-21.
77. [ Displaying Abstract ] (1984-05-02). "NY Times editorial on the Supreme Court's ruling" (<https://select.nytimes.com/gst/abstract.html?res=F40812FC3B5C0C718CDDAC0894DC484D81&n=Top%2fReference%2fTimes%20Topics%2fOrganizations%2fC%2fConsumers%20Union>). Select.nytimes.com. Retrieved 2012-10-21.
78. Willis, Barry (December 30, 2002). "Bose vs Harman Upheld" (<http://www.stereophile.com/news/11231/index.html>). *Stereophile*. Source Interlink Media.
79. Tellig, Sam (September 3, 2006). "Thiel CS2 2 loudspeaker" (<http://www.stereophile.com/floorloudspeakers/492thiel/index.html>). *Stereophile*. Source Interlink Media.
80. "Thiel advertisement". *Absolute Sound*: 101. 1997. "Thiel 2.3 Loudspeaker: The Return of the Decimal Point ...Well, Thiel's decimal point is back, and it ain't the only change, children."
81. "Costa Mesa's QSC Loses Bose Trademark Appeal" (<http://articles.latimes.com/2002/jun/19/business/fi-bose19>). *Los Angeles Times*. Bloomberg. June 19, 2002.
82. Paone, Joe (May 2007) [CEDIA Announces Win in 'Electronic Lifestyles' Trademark Battle Against Bose](http://www.customretailer.net/article/cedia-announces-win-and-8220-electronic-lifestylesand-8221-trademark-battle-against-bose-54189/1) (<http://www.customretailer.net/article/cedia-announces-win-and-8220-electronic-lifestylesand-8221-trademark-battle-against-bose-54189/1>). *CustomRetailer*.
83. Jacobson, Julie (May 3, 2007) [Bose Loses 'Lifestyle' Battle against CEDIA; AMX Drops 'Lifestyle' Brand: CEDIA finally prevailed against Bose after spending four years and almost \\$1 million.](http://www.cepro.com/article/bose_loses_lifestyle_battle_against_cedia_amx_drops_lifestyle_brand/K314) ([http://www.cepro.com/article/bose\\_loses\\_lifestyle\\_battle\\_against\\_cedia\\_amx\\_drops\\_lifestyle\\_brand/K314](http://www.cepro.com/article/bose_loses_lifestyle_battle_against_cedia_amx_drops_lifestyle_brand/K314)) *CE Pro*.
84. [CEDIA Wins in Litigation Brought by Bose over Electronic Lifestyles Trademark](http://www.ecoustics.com/electronics/products/new/351759.html) (<http://www.ecoustics.com/electronics/products/new/351759.html>) (May 3, 2007) *Ecoustics.com*.
85. "Bose Is Suing Beats Over Headphone Patents" (<http://time.com/3036763/bose-beats-lawsuit/>). *Time*. Time, Inc. Retrieved 1 August 2014.
86. "Sound Off: Bose Sues Beats Over Noise-Cancelling Patents" (<https://blogs.wsj.com/digits/2014/07/25/sound-off-bose-sues-beats-over-noise-cancelling-patents/>). *Digits*. The Wall Street Journal. Retrieved 1 August 2014.
87. Kirsner, Scott (August 3, 2014). "Is Bose up to a challenge from Apple?" (<https://www.bostonglobe.com/business/2014/08/02/bose-challenge-from-apple/HSacR60fEGUv5KzCkSPzPJ/story.html>). *Boston Globe*.
88. Christ, Shawn (October 12, 2014). "Bose Agrees To Throw Out Lawsuit Against Beats Electronics" (<http://www.musictimes.com/articles/12185/20141012/bose-agrees-throw-out-lawsuit-against-beats-electronics.htm>). *Music Times*.
89. "Bose Agrees to Dismiss Lawsuit Against Beats" (<https://www.nytimes.com/aponline/2014/10/10/us/ap-us-bose-beats-lawsuit.html>). *The New York Times*. Associated Press. October 10, 2014.
90. "Bose Agrees to Dismiss Lawsuit Against Beats" (<http://www.billboard.com/articles/news/6281552/bose-agrees-to-dismiss-lawsuit-against-beats>). *Billboard*. Associated Press. October 12, 2014.
91. Moon, Mariella (October 18, 2014). "Apple removes Bose products from stores following Beats settlement" (<https://www.engadget.com/2014/10/18/apple-removes-bose-from-stores/>). *Engadget*. Retrieved May 9, 2015.
92. Moscaritolo, Angela (December 10, 2014). "Bose Speakers Return to Apple Online Store After Removal" (<https://www.pcmag.com/article2/0,2817,2473409,00.asp>). *PCMag*. Ziff-Davis.
93. "Bose Privacy Complaint" (<https://www.scribd.com/document/345620278/Bose-Privacy-Complaint>). *Scribd*. Retrieved 2017-04-21.

## External links

- [Official website \(https://www.bose.com\)](https://www.bose.com)

Retrieved from "[https://en.wikipedia.org/w/index.php?title=Bose\\_Corporation&oldid=808730247](https://en.wikipedia.org/w/index.php?title=Bose_Corporation&oldid=808730247)"

---

**This page was last edited on 4 November 2017, at 19:57.**

Text is available under the [Creative Commons Attribution-ShareAlike License](#); additional terms may apply. By using this site, you agree to the [Terms of Use](#) and [Privacy Policy](#). Wikipedia® is a registered trademark of the [Wikimedia Foundation, Inc.](#), a non-profit organization.