Hearing Aid Compatibility for Wireless Telephones

FCC Consumer Facts

Background

The Hearing Aid Compatibility Act of 1988 (HAC Act) generally requires that the Federal Communications Commission (FCC) ensure that telephones manufactured or imported for use in the United States after August 1989, and all "essential" telephones, are hearing aid-compatible. When Congress passed the Act in 1988, it specifically exempted "telephones used with public mobile services" (wireless telephones) from these requirements. To ensure that the HAC Act kept pace with the evolution of telecommunications, however, Congress granted the FCC a means to revoke or limit the exemption for wireless telephones. On August 14, 2003, the FCC determined that continuation of a complete exemption for wireless telephones would have an adverse effect on individuals with hearing disabilities, and that limiting the exemption was technologically feasible and in the public interest. Based upon these findings, the FCC established rules for the hearing aid compatibility of digital wireless phones.

What Makes a Phone Hearing Aid Compatible?

Hearing aids operate in one of two modes – acoustic coupling or telecoil coupling. Hearing aids operating in acoustic coupling mode receive and amplify all sounds surrounding the user; both desired sounds, such as a telephone's audio signal, as well as unwanted ambient noise. Hearing aids operating in telecoil coupling mode avoid unwanted ambient noise by turning off the microphone and receiving only signals from magnetic fields generated by telecoil-compatible telephones. In the United States, about 25-30 percent of hearing aids contain telecoils, which generally are used by individuals with profound hearing loss.

A telecoil is a small, tightly-wrapped piece of wire inside the hearing aid that, when activated, picks up the voice signal from the electromagnetic field that leaks from compatible telephones. While the microphone on a hearing aid picks up all sounds, the telecoil will only pick up an electromagnetic signal from the telephone. Thus, users of telecoil-equipped hearing aids are able to communicate effectively over the telephone without feedback and without the amplification of unwanted background noise. Telecoils can only fit in two styles of hearing aids: "In-The-Ear" and "Behind-The-Ear" aids. Smaller hearing aids are not large enough to fit the telecoil. Many people report feedback (or squealing) when they place a telephone next to their hearing aid. When placed correctly, telecoils can eliminate this feedback because the hearing aid microphone is turned off and the hearing aid only amplifies the signal coming through the telecoil. Some hearing aid users may need to place the telephone slightly behind the ear rather than directly over the ear to obtain the clearest signal.

What Makes a Phone Hearing Aid Compatible? (cont'd.)

The ability to make wireless telephones compatible with hearing aids also depends in part on other technical and design choices made by carriers and manufacturers. For example, for technical reasons, it is easier to meet hearing aid compatibility standards on systems that use a Code Division Multiple Access (CDMA) air interface (including Verizon Wireless and Sprint Nextel) than on systems that use a Global System for Mobile (GSM) (such as AT&T Mobility and T-Mobile) air interface. It is also easier to meet hearing aid compatibility standards in phones with clamshell (or "flip") designs than in "candy bar" or other styles. Therefore, consumers may generally find more models that meet hearing aid compatibility standards available from CDMA carriers and in clamshell designs.

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What Are the FCC's Requirements for Hearing Aid Compatibility for Digital Wireless Telephones?

Analog wireless telephones usually do not cause interference with hearing aids. Digital wireless telephones, on the other hand, sometimes cause interference because of electromagnetic energy emitted by the telephone's antenna, backlight, or other components. Therefore, the FCC has adopted specific hearing aid compatibility rules for digital wireless telephones.

The standard for compatibility of digital wireless phones with hearing aids is set forth in American National Standard Institute (ANSI) standard C63.19. ANSI C63.19 contains two sets of standards: an "M" rating (originally a "U" rating) from one to four for reduced radio frequency (RF) interference to enable acoustic coupling with hearing aids that do not operate in telecoil mode, and a "T" rating (originally a "UT" rating) from one to four to enable inductive coupling with hearing aids operating in telecoil mode. A digital wireless handset is considered hearing aid-compatible for acoustic coupling if it meets an "M3" (or "U3") rating under the ANSI standard. A digital wireless handset is considered hearing aid-compatible for inductive coupling if it meets a "T3" (or "U3T") rating under the ANSI standard.

In addition to rating wireless phones, the ANSI standard also provides a methodology for rating hearing aids from M1 to M4, with M1 being the least immune to RF interference and M4 the most immune. To determine whether a particular digital wireless telephone is likely to interfere with a particular hearing aid, the immunity rating of the hearing aid is added to the rating of the telephone. A sum of four would indicate that the telephone is usable; a sum of five would indicate that the telephone would provide normal use; and a sum of six or greater would indicate that the telephone would provide excellent performance with that hearing aid.

Are Hearing Aid-Compatible Digital Wireless Phones Available?

To ensure that sufficient hearing aid-compatible digital wireless phones complying with the ANSI standard are available, the FCC in 2003 and 2008 set benchmark dates by which digital wireless handset manufacturers and service providers had to gradually increase the number of hearing aid-compatible digital wireless phones available to consumers. The currently applicable benchmarks are as follows:

For Acoustic Coupling

- Beginning June 6, 2008, each handset manufacturer must meet at least an M3 rating for one third of the handset models that it offers to service providers per digital air interface. If one third of the manufacturer's handset models works out to a fraction, the manufacturer may round the result down.

- Beginning June 6, 2008, each nationwide wireless service provider (Verizon Wireless, AT&T Mobility, Sprint Nextel, and T-Mobile) must meet at least an M3 rating for 50 percent or eight of the handset models it offers to consumers, whichever is less, per digital air interface. For service providers that do not meet the 50 percent threshold, the minimum number of compatible models required will increase to nine on February 15, 2009, and ten on February 15, 2010.

- Beginning September 7, 2008, each non-nationwide wireless service provider must meet at least an M3 rating for 50 percent or eight of the handset models it offers to consumers, whichever is less, per digital air interface. For service providers that do not meet the 50 percent threshold, the minimum number of compatible models required, will increase to nine on May 15, 2009, and ten on May 15, 2010. Until September 7, 2008, these service providers must offer at least two M3-rated handset models per digital air interface.

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Are Hearing Aid-Compatible Digital Wireless Phones Available? (cont'd.)

For Inductive Coupling

- Each handset manufacturer must offer to service providers at least two T3-rated handset models per digital air interface. In addition, manufacturers must ensure that 20 percent of their handset models per air interface meet at least a T3 rating beginning February 15, 2009, 25 percent beginning February 15, 2010, and one third beginning February 15, 2011. If these percentages work out to a fraction, the manufacturer may round the result down; however, any manufacturer offering four or more handset models over a digital air interface must offer at least two that meet a T3 or higher rating.

- Beginning June 6, 2008, each nationwide wireless service provider (Verizon Wireless, AT&T Mobility, Sprint Nextel, and T-Mobile) must meet at least a T3 rating for one third or three of the handset models it offers to consumers, whichever is less, per digital air interface. For service providers that do not meet the one third threshold, the minimum number of compatible models required will increase to five on February 15, 2009, seven on February 15, 2010, and ten on February 15, 2011.

- Beginning September 7, 2008, each non-nationwide wireless service provider must meet at least a T3 rating for one third or three of the handset models it offers to consumers, whichever is less, per digital air interface. For service providers that do not meet the one third threshold, the minimum number of compatible models required will increase to five on May 15, 2009, seven on May 15, 2010, and ten on May 15, 2011. Until September 7, 2008, these service providers must offer at least two T3-rated handset models per digital air interface.

These numbers are minimum requirements, and manufacturers and service providers may offer more qualifying handsets if they choose. In addition, manufacturers are required to partially refresh their offerings of hearing aid-compatible phones each year, and service providers must offer a range of hearing aid-compatible phones with differing levels of functionality.

Are Hearing Aid-Compatible Digital Wireless Phones Available? (cont'd.)

The FCC allows a "de minimis" exception to its requirements for handset manufacturers and wireless service providers offering a small number of hearing aid-compatible handsets. Under this exception:

- Wireless service providers and handset manufacturers that offer two or fewer digital wireless handsets in the U.S. for a particular air interface need not offer hearing aid-compatible handsets.

- Wireless service providers and handset manufacturers that offer three digital wireless handsets in the U.S. for a particular air interface must offer at least one hearing aid-compatible handset model.

Are There Labeling and Testing Requirements?

Packages containing hearing aid-compatible handsets must be explicitly labeled and must include detailed information in the package or product manual. Wireless service providers must offer a means for consumers to test hearing aid-compatible handsets in their owned or operated retail stores.

Some hearing aid manufacturers are voluntarily including information about hearing aid compatibility with their products. Wireless service providers are also offering similar information in their owned or operated retail stores and are training employees to help persons with hearing aids. This information and the package labeling required by the FCC help persons with hearing aids make fully-informed decisions about purchasing their hearing aid-compatible wireless phones.

Beginning on January 15, 2009, manufacturers and service providers will be required to post information about their hearing aid-compatible handset offerings on their Web sites.

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Filing A Complaint with the FCC

If you have a problem using a hearing aid with a digital wireless phone that is supposed to be hearing aid-compatible, first try to resolve it with the equipment manufacturer or your wireless service provider. If you can't resolve the issue directly, you can file a complaint with the FCC. There is no charge for filing a complaint. You can file your complaint electronically using the on-line complaint Form 2000C found at **www.fcc.gov/cgb/complaints.html**. You can also file your complaint with the FCC's Consumer Center by e-mailing **fccinfo@fcc.gov**; calling 1-888-CALL-FCC (1-888-225-5322) voice or 1-888-TELL-FCC (1-888-835-5322) TTY; faxing 1-866-418-0232; or writing to:

Federal Communications Commission
Consumer & Governmental Affairs Bureau
Consumer Inquiries and Complaints Division
445 12th Street, S.W.
Washington, DC 20554.

What to Include in Your Complaint

The best way to provide all the information the FCC needs to process your complaint is to complete fully the on-line complaint Form 2000C. If you do not use the on-line complaint Form 2000C, your complaint, at a minimum, should indicate:

- your name, address, e-mail address, and phone number where you can be reached;
- preferred format or method of response (letter, fax, voice phone call, e-mail, TRS, TTY, ASCII text, audio recording, or Braille);
- that your complaint is about hearing aid compatibility for a digital wireless telephone;

What to Include in Your Complaint (cont'd.)

- the make and model number of the equipment or device you are complaining about;
- the name, address, telephone number (if known) of the company or companies involved in your complaint; and
- a brief description of your complaint and the resolution you are seeking, and a full description of the equipment or service you are complaining about, including date of purchase, use, or attempt to use.

For More Information

For information about hearing aid-compatible wireline telephones, see our consumer fact sheet at **www.fcc.gov/cgb/consumerfacts/hac_wireline.html**. For more information about FCC programs to promote access to telecommunications services for people with disabilities, visit our Disability Rights Office Web site at **www.fcc.gov/cgb/dro**. Finally, for information about other telecommunications-related issues, visit the FCC's Consumer & Governmental Affairs Bureau Web site at **www.fcc.gov/cgb**, or contact the FCC's Consumer Center using the contact information provided for filing a complaint.

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*To receive information on this and other FCC consumer topics through the Commission's electronic subscriber service, click on **www.fcc.gov/cgb/contacts/**.*

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05/20/08*