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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY



Building The
Wireless Future.™

January 16, 1995

CTIA

Cellular
Telecommunications
Industry Association
1250 Connecticut
Avenue, N.W.
Suite 200
Washington, D.C. 20036
202-785-0081 Telephone
202-785-0721 Fax

Mr. William F. Caton
Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, DC 20554

EX PARTE OR LATE FILED

Re: *Ex Parte* Presentation
Section 68.4(a) of the Commission's Rules -
Hearing Aid Compatibility
RM-8658

Dear Mr. Caton:

On Tuesday, January 2, 1996, Mr. Thomas E. Wheeler, President and CEO of the Cellular Telecommunications Industry Association ("CTIA") sent the attached correspondence to the Chairman. The letter concerns issues raised in the above-referenced proceeding.

Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter are being filed with your office. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,

Andrea D. Williams
Staff Counsel

Attachment

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Cellular
Telecommunications
Industry Association
1250 Connecticut
Avenue, N.W.
Suite 200
Washington, D.C. 20036
202-785-0081 Telephone
202-331-8112 Fax
202-736-3213 Direct Dial

Hon. Reed Hundt
Chairman
Federal Communications Commission
1919 M St., NW
Washington, DC 20036

January 2, 1996

Thomas E. Wheeler
President / CEO

Dear Mr. Chairman:

On October 3, you asked representatives of the wireless industry to accelerate efforts to resolve potential interference between hearing aids and digital wireless devices. As we reported to you at that time, CTIA already had efforts underway at the Center for the Study of Wireless Electromagnetic Compatibility at the University of Oklahoma. The purpose of this letter is to report to you and to the Food and Drug Administration on activities since the October meeting.

The evolution from an analog world to a digital world brings with it electromagnetic compatibility challenges which are not unlike those experienced, and resolved, in the early days of analog transmissions. The use of the term "compatibility" in this regard means the absence of interference; it is somewhat confusing that some hearing aid groups use the term "compatibility" to mean something entirely different -- *i.e.*, the designed-in emission of electromagnetic energy from a handset so as to couple with a specially-designed (t-coil) hearing aid representing approximately 30 percent of all hearing aids.

The wireless industry's efforts have had three goals: (1) facilitate interference-free operation of digital wireless devices, (2) facilitate access to wireless telephony by all hearing-impaired Americans, not just those with t-coil hearing aids, and (3) provide for those hearing-impaired individuals using t-coil hearing aids a choice of phones which will couple with the t-coil. The following is a report on each of those goals.

Interference-Free Operation

Wireless Compatibility Center Preliminary Results -- CTIA helped to organize the EMC Center at Oklahoma University because of the ability to utilize one of the finest radio frequency labs in the world. Since May, 1995, research involving the wireless industry and hearing aid manufacturers has been underway to quantify interference with

hearing aids and to isolate its cause, so that it may be remedied. The protocol for this research was developed by a design team which included representatives of the wireless and hearing aid industries, independent scientists, FCC, FDA and representatives of the hearing impaired community. The human factors research of the Center is being conducted in collaboration with the Hough Ear Institute.

We are told the first round of the human factor results will be available on January 15. It is expected that these results, to be followed by the full human factor and laboratory tests, will begin to identify specific solutions which will lead to interference-free usage of digital wireless technologies by hearing aid wearers.

Defense Technology Transfer -- At the suggestion of the FCC Office of Engineering Technology, the EMC Center is contacting Defense Department contractors with experience dealing with the problem of digital interference. Typically, defense applications of digital RF technology are more demanding than civilian applications and it is hoped that this experience might be transferable to the digital wireless situation.

European Hearing Aid Immunity Criteria Adopted By CTIA Certification Program -- On December 14, the CTIA Board of Directors amended the CTIA Certification Program for wireless phones to require that all CTIA-certified units meet the European hearing aid standards. This means that, effective July 1, 1997, certified phones will not interfere with hearing aids that are designed and tested to meet the requirements contained in IEC 118-13, the European Commission electromagnetic compatibility product standard for hearing aids (there is no US standard for hearing aids, but the international market for the devices means that the European standard has a *de facto* effect).

CTIA Bystander Effect Evaluation -- There has been concern expressed that the use of a digital phone may inadvertently affect the hearing aid of a bystander who is not using the phone. Because there has been a great deal of misinformation on this issue, CTIA is conducting an in-field test utilizing the PCS-1900 system which is operational in the Washington, DC market. The results of this test will provide real-world information on the extent of the bystander issue. Participants in this test will include representatives of the hearing impaired community. This project was scheduled for a December 31, completion, however, because of difficulty in securing proper test equipment, the results are now projected for February 15.

CDMA Technical Solution -- On December 15, the CDMA Development Group (CDG) announced a technical standard which illustrates how solutions can be found to the interference issue. The CDG standard provides a hearing aid wearer with the capability to turn off the variable rate vocoder component of the CDMA technology which, they report, was a source of interference.

We are confident that the work of the EMC Center -- which includes all digital technologies: CDMA, PCS-1900, TDMA and MIRS -- will be able to identify other solutions for use with all technologies.

Facilitating Access By The Hearing Impaired

There are approximately 28 million Americans with hearing loss, of whom six million (22 percent) wear hearing aids (only 1.8 million, or eight percent, of which are t-coil equipped). The biggest responsibility of both the industry and the government is to assure *access to all Americans* with hearing loss. Unfortunately, however, the hearing aid issue has recently been defined only in terms of the minority who use a t-coil.

Wireless telephones are providing access to the telephone network to individuals who, otherwise, would have no access. While the Americans With Disabilities Act (ADA) provides that all hearing impaired should have *access* to the telephone network, this requirement is most often observed in the breach. The ability of a hearing impaired individual to take a specially-equipped wireless phone with them anywhere, however, is overcoming this access problem. The wireless industry has taken many steps -- voluntarily and long before the present hearing aid controversy -- to facilitate access to the telephone network:

Facilitating Access Devices -- Many hearing impaired individuals have found that external devices such as HATIS and JABRA enable them to utilize a wireless phone. The HATIS device, for instance, can plug into a wireless phone and couple with a t-coil to boost the dB level on a hearing aid to levels so high as to enable even the profoundly deaf to use an otherwise unusable phone. JABRA is a similar device which provides amplification to non t-coil hearing aids. There are two keys to being able to use such devices: (1) ability to secure the device and (2) equipping phones with a plug-in jack.

Wireless companies such as AT&T Wireless and Sprint Spectrum are providing free HATIS devices to qualified hearing impaired customers. Many other wireless companies are providing the device for a nominal charge.

The CTIA Board of Directors, on December 14, amended the CTIA Unit Certification Program to provide that, effective July 1, 1997, all CTIA-certified phones must have a 2.5mm jack capable of accepting HATIS and JABRA.

The great advantage of a HATIS/JABRA-equipped wireless phone to hearing impaired individuals is that, unlike the wireline phone network, an appropriately equipped wireless phone can go anywhere the hearing impaired individual goes, providing universal access to a heretofore inaccessible telephone network. The voluntary activities

of the wireless industry have served to maximize this freedom and access for these individuals.

Coupling With T-Coil Hearing Aids

For the eight percent of hearing impaired Americans with a t-coil equipped hearing aid, the wireless industry is providing telephones which will electromagnetically couple with the t-coil.

Coupling-Capable Phones Available Today -- Approximately 25 analog wireless phones are today capable of coupling with a t-coil. Thus, no t-coil user is denied access to the wireless network. As more digital units reach the market, they, too, will, no doubt, have couple-able designs. This capability is available because of the voluntary efforts of the wireless industry and its extension to digital units is only a matter of time -- time during which t-coil users are not denied access to the wireless network because of the existing availability of wireless phones which couple to a t-coil.

It is important to reiterate the distinction between the lack of digital interference with hearing aids and "compatibility" with hearing aids. For example, the important announcement by the CDMA Development Group of an interference solution for that technology does not mean that the units are "compatible" (a legal term signifying the ability to couple with a t-coil style hearing aid). It is unnecessary to require that all CDMA phones be "compatible" (as advocated by the t-coil proponents in their filings at the FCC) so long as there are "compatible - capable" wireless phones generally available to the hearing impaired.

One of the great beauties of wireless technology is that the units are, truly, "personal communications devices" -- *i.e.*, the consumer can make personalized decisions as to size, function, security *and compatibility* depending upon his or her personal needs. The wireless industry has demonstrated that it is today providing these choices -- including compatibility.

Communicating With The Hearing Impaired Community

Finally, Mr. Chairman, CTIA has acted -- and will continue to act -- to improve the communications between the wireless industry and the hearing impaired community.

Chairman Hundt
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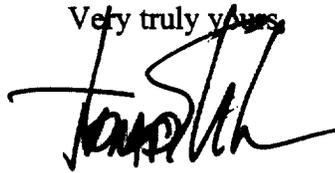
CTIA has actively participated in and supported the Hearing Aid Compatibility and Access to Digital Wireless Telecommunications Summit meeting scheduled for next week.

CTIA is developing a Wireless for the Hearing Impaired home page for the Internet to provide information and resources on wireless technologies for the hearing impaired.

CTIA has also worked with Self Help for Hard of Hearing People (SHHH) on a trial of wireless phones to determine which features and options were valuable to the hearing impaired and should be considered in selecting a wireless phone.

Mr. Chairman, on October 3rd you placed the prestige of your office behind this important issue. The wireless industry was active in the digital interference issue before October 3rd and we hope that you feel that the above list of accomplishments since that date is a manifestation of our dedication to finding solutions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Tom Wheeler", written over the typed name below.

Thomas E. Wheeler