

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington D.C. 20554**

In the Matter of)
)
)
Development of Devices Capable of) MB Docket No. 08-172
Supporting Multiple Audio Entertainment)
Services)
)

REPLY COMMENTS

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I. INTRODUCTION

Telecommunications for the Deaf and Hard of Hearing, Inc. (“TDI”), National Association for the Deaf (“NAD”), Deaf and Hard of Hearing Consumer Advocacy Network (“DHHCAN”), Hearing Loss Association of America (“HLAA”), Association of Late-Deafened Adults, Inc. (“ALDA”), American Association of the Deaf-Blind (“AADB”), and California Coalition of Agencies Serving the Deaf and Hard of Hearing (“CCASDHH”) (collectively, the “Consumer Groups”) submit these reply comments in response to the Commission’s August 25, 2008 Notice of Inquiry (“NOI”), which seeks comment on the mandatory incorporation of digital audio broadcast (“HD Radio”) functionality in Satellite Digital Audio Radio Service (“SDARS”) receivers.

II. THE CONSUMER GROUPS

TDI is a national advocacy organization that promotes equal access to telecommunications, media and information technology for the 31 million Americans who are deaf, hard-of-hearing, late-deafened, or deaf-blind so that they may attain the opportunities and benefits of the telecommunications revolution to which they are entitled.¹ TDI believes that only by ensuring equal access for all Americans will society benefit from the myriad skills and talents of persons with disabilities.

Established in 1880, the NAD is the nation’s oldest and largest constituency organization safeguarding the accessibility and civil rights of 31 million deaf, hard of hearing, late deafened,

¹ TDI educates and encourages consumer involvement regarding legal rights to telecommunications accessibility; provides technical assistance and consultation to industry, associations, and individuals; encourages accessible applications of existing and emerging telecommunications and media technologies in all sectors of the community; advises on and promotes the uniformity of standards for telecommunications technologies; works in collaboration with other disability organizations, government, industry, and academia; develops and advocates national policies that support accessibility issues; and publishes “The GA-SK” quarterly news magazine and the annual *Blue Book, TDI National Directory & Resource Guide for Equal Access in Telecommunications and Media for People Who Are Deaf, Late-Deafened, Hard-of-Hearing or Deaf-Blind*.

and deaf-blind Americans in a variety of areas, including education, employment, health care, and telecommunications. A private, non-profit organization, the NAD is a dynamic federation of state associations and organizational affiliates and direct members. Primary areas of focus include grassroots advocacy and empowerment, captioned media, deafness-related information and publications, legal rights technical assistance, policy development and research, and youth leadership development. The NAD works closely with deafness related national organizations and is a member of several coalitions representing the interests of deaf, hard of hearing, late deafened, and deaf-blind individuals.

DHHCAN, established in 1993, serves as the national coalition of organizations² representing the interests of deaf, hard of hearing, and deaf-blind citizens in public policy and legislative issues relating to rights, quality of life, equal access, and self-representation. DHHCAN also provides a forum for proactive discussion on issues of importance and movement toward universal, barrier-free access with emphasis on quality, certification, and standards.

CCASDHH was established in 1988 and incorporated as a nonprofit statewide membership organization. On an annual basis, CCASDHH's member agencies³ ensure that a variety of social services are available serving 3.8 million deaf and hard of hearing individuals

² The member organizations of DHHCAN include the American Association of the Deaf-Blind (AADB), the American Deafness and Rehabilitation Association (ADARA), the Association of Late-Deafened Adults (ALDA), the American Society for Deaf Children (ASDC), the Conference of Educational Administrators of Schools and Programs for the Deaf (CEASD), Communication Service for the Deaf (CSD), Deaf Seniors of America (DSA), Gallaudet University, Gallaudet University Alumni Association (GUAA), National Association of the Deaf (NAD), National Black Deaf Advocates (NBDA), National Catholic Office of the Deaf (NCOD), Registry of Interpreters for the Deaf (RID), Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI), USA Deaf Sports Federation (USADSF), and The Caption Center/WGBH.

³ CCASDHH's members include eight nonprofit community-based organizations providing various social services "of by and for" deaf and hard-of-hearing Californians -- NorCal Center on Deafness; Greater Los Angeles Agency on Deafness; Deaf Counseling, Advocacy and Referral Agency; Deaf Community Services of San Diego; Deaf and Hard of Hearing Service Center; Center on Deafness: Inland Empire; Orange County Deaf Equal Access Foundation and Tri-County GLAD - and the California Association of the Deaf, a statewide membership organization representing deaf and hard-of-hearing consumers.

regardless of where they live throughout all 58 counties in California. Through its member agencies' diverse workforce, including Native American, Hispanic, Asian, Russian, Hmong, and African-American individuals who are deaf or hard of hearing, CCASDHH works hard to improve the quality of lives of Californians who are deaf or hard of hearing and who otherwise would not have full access to such services as telecommunications, education, certified sign language interpreters, parent-to-parent support for newborns identified with a hearing loss, literacy, employment development, and advocacy.⁴

AADB is a national consumer advocacy organization of, for, and by deaf-blind Americans. The mission of AADB is to enable deaf-blind individuals to achieve their maximum potential through increased independence, productivity, and integration into the community. Founded in 1937 to have deaf-blind people meet and provide moral support to one another, AADB evolved into a formal organization in 1984 with 501 (c) (3) status, bylaws, and a board of directors, the majority of whom are deaf-blind themselves.⁵

ALDA was formed in Chicago, Illinois in 1987. It has evolved to membership that is international in scope, working collaboratively with other organizations and individuals around the world to serve the needs of people who are late-deafened. Through a support network of chapters, groups, and individuals, ALDA promotes public and private programs to alleviate the

⁴ Member agencies and CCASDHH were the primary forces in state legislation that established the TTY equipment distribution program and the California Relay Service, long before the Americans with Disabilities Act was passed. As direct service providers, CCASDHH member agencies have the pulse of the community they serve to best determine needs and priorities.

⁵ AADB advocates on behalf of the estimated 700,000 Americans with dual severe hearing and vision loss. "Deaf-Blind" does not necessarily mean totally deaf and totally blind. It is an all encompassing term that includes people who are deaf or hard of hearing and have low or tunnel vision. This year AADB has advocated for equal access to facilities, services, and programs that are open to the public, inclusion of Support Service Providers (SSPs) as auxiliary aids in Americans with Disabilities Act, manufacturers of technology to include deaf-blind access, establishing a summit to address issues on access to video relay services, training of interpreters skilled to work with deaf-blind people, the right to travel alone when flying, for inclusion in emergency preparedness plans to name a few.

problems faced by those with late-deafness in becoming reintegrated into all aspects of society. ALDA also provides educational information through publications and an annual conference, as well as advocacy on behalf of, and in support for, late-deafened adults and their families and friends.

HLAA is the nation's leading consumer organization representing people with hearing loss. HLAA impacts accessibility, public policy, research, public awareness, and service delivery related to hearing loss on a national and global level. HLAA's national support network includes an office in the Washington D.C. area, 14 state organizations, and 200 local chapters. The HLAA mission is to open the world of communication to people with hearing loss through information, education, advocacy, and support. HLAA provides cutting edge information to consumers, policy makers, business professionals and family members through our website, an award -winning publication, Hearing Loss, an online newsletter, ENews, and message boards. In addition, we bring consumers and policy makers together to learn about hearing accessibility issues at our national and regional conventions.

III. DISCUSSION

In its NOI, the Commission asks whether it should require the incorporation of HD Radio functionality in devices capable of receiving an SDARS transmission from Sirius XM Radio Inc. ("Sirius-XM") satellites. HD Radio technology allows for the transmission of captioning signals for terrestrial radio broadcasts, which currently are largely unavailable to persons who are deaf or hard of hearing. Commission action on this issue is critical. There is little incentive for the sole incumbent satellite radio provider to incorporate multi-function capability in its receivers on its own, new entrants in this sector are unlikely, and the terrestrial broadcast radio industry is fragmented. Therefore, this nascent technology is unlikely to develop without Commission

intervention, which will mean that terrestrial radio will remain inaccessible to Americans who are deaf or hard of hearing. The Consumer Groups ask the Commission to fulfill its longstanding policy of ensuring that all communications technologies are available to people with hearing disabilities and to mandate HD Radio functionality in new SDARS receivers.

A. HD Radio Provides The First Viable Method to Deliver Live Captioned Radio Content

The Consumer Groups applaud National Public Radio, Inc. (“NPR”) and iBiquity Digital Corporation (“iBiquity”) for their groundbreaking research demonstrating the viability of HD Radio as a transmission medium for captioned broadcast radio content.⁶

The advent of HD Radio promises, for the first time, to make broadcast radio content available in real time to the deaf and hard of hearing communities. Analog AM and FM modulation schemes simply cannot accommodate the underlying stream of data required to generate captioned text on a remote radio receiver’s display. Although these older transmission schemes still adeptly modulate audio signals, they lack the ability to accommodate significant additional features or functionality. HD Radio technology, which uses an in-band/on-channel (“IBOC”) modulation scheme on a sub-carrier within the radio broadcaster’s existing transmission, readily accommodates the data stream necessary to caption a live broadcast. In fact, as NPR’s comments in this proceeding reflect, NPR has such confidence in the technology that it conducted a live captioned broadcast of its 2008 presidential election coverage in five cities via HD Radio.⁷ NPR’s trials incorporating captioned text in radio programs have proven

⁶ See Comments of National Public Radio, Inc., MB Docket No. 08-172, at 3 (filed Nov. 10, 2008) (“NPR Comments”); Comments of National Association of Broadcasters, MB Docket No. 08-172, at 4 (filed Nov. 10, 2008) (“NAB Comments”).

⁷ See NPR Comments at 4.

so successful it has stated that it intends to commence captioning of its news programming delivered via HD Radio by late 2009.⁸ NPR's tests demonstrate that this technology works.

HD Radio places millions of Americans on the cusp of accessing radio broadcasts that have never been available to them. Before the promise of HD Radio can be realized, broadcasters must upgrade their stations to transmit the digital IBOC modulation scheme. Given the substantial costs associated with those upgrades,⁹ many radio station owners will undertake a retrofit only if consumer HD Radios are widely available and embedded in new cars and portable audio systems. This proceeding gives the Commission the opportunity to ensure that this occurs.

B. Industry is Unlikely to Act Without Commission Action

Consumer Groups agree with other parties who note that HD Radio functionality is unlikely to be incorporated into SDARS receivers without a Commission mandate.¹⁰ In addition to accommodating captioned text, HD Radio offers advanced features (*e.g.*, track titles) that make it a more direct competitor to SDARS as compared to analog radio. Given that HD Radio's feature set directly competes with SDARS it is unlikely that multi-function HD-Radio/SDARS receivers will be available without intervention by the Commission.¹¹ As several other parties noted, while HD Radio service has been available for several years, there is no evidence that any electronics manufacturer has initiated development of a multi-function radio.¹²

⁸ See NPR Comments at 4.

⁹ See NAB Comments at 4.

¹⁰ See NAB Comments at 6-7; Comments of Ibiqity Digital Corporation, MB Docket No. 08-172, at 6 (filed Nov. 10, 2008) ("Ibiqity Comments"), Comments of Beasley Broadcast Group, Inc., et al., MD Docket No. 08-172, at 12 (filed Nov. 10, 2008) ("Beasley Comments").

¹¹ XM-Sirius's management has made clear that the company will not voluntarily support devices that incorporate competing technologies. See Ibiqity Comments at 6.

¹² See *e.g.*, NAB Comments at 5.

The satellite radio industry's reluctance to incorporate HD Radio functionality in SDARS receivers is likely to slow or prevent the technology from reaching "critical mass" and widespread consumer acceptance, which in turn would cripple the availability of captioned programming and caption-enabled HD Radio consumer equipment. Other parties have noted that Sirius-XM is intimately involved in the "design, manufacture and sale" of SDARS receivers.¹³ The company subsidizes SDARS receivers, which indirectly allows it to steer manufacturers of automobiles, trucks and other vehicles that purchase SDARS receivers wholesale toward specific models.¹⁴ These may be rational business decisions by the company, but they have the effect of denying access to consumers who are deaf or hard of hearing. It is unlikely that additional satellite radio providers will emerge in the near future, and independent radio broadcasters lack the leverage with the consumer electronics and vehicle manufacturers to encourage them to embed HD functionality in SDARS receivers. These factors make it unlikely that this technology will become available independently and favor Commission action.

C. FCC Policy Goals Support Captioned Radio Service And Embedding HD Radio Functionality In SDARS Receivers

Incorporation of HD Radio functionality in SDARS receivers serves the public interest and promotes the Commission's "longstanding commitment to ensure that deaf and hard of hearing individuals have full access to.... digital wireless services."¹⁵ Moreover, it satisfies the

¹³ See e.g., NAB Comments at 2.

¹⁴ See e.g., Ibiqity Comments at 6.

¹⁵ *In the Matter of Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones*, Report on the Status of Implementation of the Commission's Hearing Aid Compatibility Requirements, 22 FCC Rcd 17703 at ¶ 12 (2007).

Commission's policy of mandating "functional equivalence" for existing forms of telecommunications when possible.¹⁶

When Congress mandated the incorporation of captioning decoders in television sets in 1990, the possibility of captioning radio programming was never given consideration.¹⁷ Indeed, the technology existing at that time made radio captioning impossible. Today, technological advances, specifically HD Radio, make it possible for radio broadcasts carrying captioned signals to be received on a wide scale. Moreover, a mandate to include HD functionality in SDARS receivers would be accomplished at a nominal cost at the time of a radio's manufacture. The benefits for the millions of Americans who are deaf or hard of hearing are broad -- from furthering vital public safety goals such as the distribution of emergency information to enhancing understanding of current events as described in news broadcasts to the simple enjoyment of being able to access previously unavailable entertainment programming. Of course, the benefits extend to many other members of the broader public as well, including those for whom English is a second language, parents with sleeping children, and individuals in public places where ambient noise is too loud to hear the dialogue.

The best, and perhaps only, way to ensure that these services are widely available is to require inclusion of HD Radio functionality in SDARS receivers at the time of manufacture. Any other solution will severely limit the availability of HD Radio and of radio captioning.

IV. CONCLUSION

The Commission has a unique opportunity to ensure that technology that provides tremendous public benefits at minimal cost is made widely available. Should the Commission

¹⁶ Congress mandated "functional equivalency" for telephone service in the 1990 Americans with Disabilities Act. *See* Pub. L. No. 101-336, § 402.

¹⁷ *See* Television Decoder Circuitry Act of 1990, Pub. L. No. 101-431, § 2.

decline to require inclusion of HD Radio functionality in SDARS receivers, this technology may never gain sufficient momentum to become commercially viable, thus depriving consumers who are deaf or hard of hearing access to a broadcast medium that others have enjoyed for nearly a century. Given the Commission's longstanding policy of making new communications technologies available to all members of the public, the Consumer Groups join NPR and others urging the incorporation of HD Radio functionality in future SDARS receivers.

Respectfully submitted,

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