

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Digital Audio Broadcasting Systems and Their)
Impact on the Terrestrial Radio Broadcast) MM Docket No. 99-325
Service)
)

To: The Commission

**REPLY COMMENTS OF THE
CONSUMER ELECTRONICS ASSOCIATION**

The Consumer Electronics Association (“CEA”),¹ respectfully files these Reply Comments on the In-Band/On-Channel Digital Radio Broadcasting Standard (“IBOC Digital Radio Standard”) adopted by the National Radio Systems Committee (“NRSC”).² CEA again urges the Commission to quickly incorporate this standard into its rules.

¹ CEA is the principal U.S. trade association of the consumer electronics and information technologies industries. Our members design, manufacture, distribute and sell digital and analog television receivers and monitors and associated electronics, digital video recorders (“DVRs”), video cassette recorders (“VCRs”), direct broadcast satellite radios (“DARS”) and television receivers (“DBS”, “DCR”, and terrestrial broadcast), broadcast AM and FM radios, and similar equipment. Our members also design and manufacture unlicensed devices such as Wi-Fi network devices that connect personal computers, personal digital assistants (“PDAs”) and laptops to peripheral devices and networks, cordless phones, baby monitors, and wireless headsets. CEA’s more than 2,000 member companies include the world’s leading consumer electronics manufacturers.

² See Comment Sought on National Radio Systems Committee’s “In-Band/On-Channel” Digital Radio Broadcasting Standard NRSC-5, *Public Notice*, DA 05-1661 (rel. June 16, 2005).

I. THE COMMISSION SHOULD ADOPT A SINGLE IBOC DIGITAL RADIO STANDARD

As CEA said in its comments,³ receiver manufacturers, broadcasters and consumers need the certainty that an FCC-mandated single standard provides in order to have enough confidence in the long-term usefulness of IBOC digital radio equipment to invest in it. Numerous other parties echo CEA's comments in this regard.⁴ There is clearly widespread agreement that the Commission should act to define a single standard, and CEA urges the Commission to do this quickly.

II. NIGHTTIME AM IBOC INTERFERENCE COMMENTS ARE BEYOND THE SCOPE OF THIS INQUIRY

In the *First Report and Order* in this proceeding⁵ the Commission concluded that:

The record in this proceeding demonstrates that IBOC is the best way to advance the Commission's DAB policy goals. ... We agree with the NRSC and the majority of commenters that the potential for new interference from IBOC operations is insignificant when compared with the advantages and opportunities inherent in this digital technology.⁶

Thus, the Commission has already considered potential interference that may be caused by IBOC digital radio signals and concluded that IBOC digital radio should be deployed. Comments addressing interference are beyond the scope of the current inquiry.

³ See Comments of the Consumer Electronics Association "CEA", at 2 (filed July 18, 2005) ("CEA Comments").

⁴ See Comments of California State University Northridge, at 2 (filed July 15, 2005); Comments of iBiquity Digital Corporation, at 2 (filed July 18, 2005); Comments of National Association of Broadcasters, at 6 (filed July 18, 2005); Comments of The Walt Disney Company, at 3 (filed July 18, 2005); Joint Comments of Entercom Communications Corp., Greater Media, Inc. & Infinity Broadcasting Corporation, at 2 (filed July 18, 2005); and Reply Comments of Crawford Broadcasting Company, at 3 (filed July 30, 2004).

⁵ See First Report and Order, MM Docket No. 99-325, FCC 02-286 (rel. October 11, 2002).

⁶ *Id.*, at para. 32.

The Commission's conclusions concerning potential interference do have one important exception – AM nighttime operation. In the *First Report and Order* the Commission said:

... the NRSC concluded that it would be imprudent to permit IBOC operation during nighttime hours until it had completed testing. No commenter suggests that interim AM IBOC operation be permitted during nighttime hours. We agree with the NRSC's conclusion, and will not authorize interim AM IBOC operation during nighttime hours.⁷

The NRSC ultimately decided not to perform any nighttime AM IBOC testing. Instead, the National Association of Broadcasters (“NAB”) and iBiquity Digital Corporation (“iBiquity”) worked together on an analysis of nighttime AM IBOC interference. On March 5, 2004, NAB and iBiquity submitted letters to the Commission urging Commission authorization of nighttime AM IBOC operations.⁸ Along with its letter, iBiquity submitted three technical reports.⁹ The Commission sought comment on these submissions on April 14, 2004,¹⁰ but has not yet issued a final decision.

The comments concerning AM IBOC interference that have been submitted in response to the Commission's *Public Notice* concerning NRSC-5 would be more appropriately addressed when the Commission considers the recommendations for nighttime AM IBOC operations from NAB and iBiquity.¹¹ NRSC-5 is a transmission standard that

⁷ *Id.*, at 30.

⁸ See Letter from Jack N. Goodman, Sr. Vice President & General Counsel, National Association of Broadcasters, to Marlene H. Dortch, Secretary, Federal Communications Commission (filed March 5, 2004); See also Letter from Albert Shuldiner, Sr. Vice President & General Counsel, iBiquity Digital Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission (filed March 5, 2005).

⁹ See iBiquity Digital Corporation, *AM Nighttime Compatibility Study Report*, May 23, 2003; iBiquity Digital Corporation, *Field Report AM IBOC Nighttime Performance*, October 20, 2003; and iBiquity Digital Corporation, *Field Report AM IBOC Nighttime Compatibility*, October 31, 2003.

¹⁰ See Comment Sought on Use of Digital AM Transmissions During Nighttime Hours, *Public Notice*, DA 04-1007 (rel. April 14, 2004).

¹¹ These include the comments concerning AM interference from: Richard Franklin (filed July 14, 2005); George M. Frese (filed July 7, 2005); Gregory J. Harris (filed July 18, 2005); Bob Hawkins (filed June 24, 2005); Holiday Broadcasting Company (filed July 18, 2005); Edward Jurich (filed July 15, 2005); Leonard R. Kahn (filed July 8, 2005); Thomas J. Olejniczak (filed July 12, 2005); Press Communications LLC (filed July

applies to radio broadcasts in the AM and FM bands. Its applicability to signals in the AM band is not dependent on whether or not such signals are broadcast during daytime or nighttime. The Commission has already concluded that any negative effects of interference that might occur during daytime hours are outweighed by the benefits that IBOC digital radio will bring to the AM band. The Commission should allow these daytime benefits to be realized right away by immediately granting permanent authorization for broadcasters to transmit NRSC-5 compliant signals in the AM band during daylight hours.

Based on the record in this proceeding, should the Commission decide that it needs to study nighttime AM broadcasts further, it should not hold up permanent daytime authorizations any further. Broadcasters should be granted immediate permanent authority to transmit NRSC-5 compliant signals during daylight hours.

III. AM BAND INTERFERENCE CONCERNS SHOULD NOT DELAY ADOPTION OF NRSC-5 OR PERMANENT IBOC DIGITAL RADIO AUTHORIZATIONS FOR THE FM BAND

CEA continues to support the Commission's conclusion in the *First Report and Order* in this proceeding that:

The record in this proceeding presents compelling evidence that AM IBOC – the only feasible, near-term digital technology option – has the potential to revitalize AM broadcasting and substantially enhance radio service for the listening public.¹²

CEA also recognizes, however, that a number of commenters express concern about AM IBOC digital radio, and particularly about its potential to interfere with some analog AM

19, 2005); Kevin Redding (filed July 25, 2005); Reunion Broadcasting (filed July 18, 2005); Paul W. Smith (filed June 27, 2005); Voice in The Wilderness Broadcasting (filed by Ralph McBride, July 18, 2005); and Robert D. Young Jr. (filed July 18, 2005).

¹² *First Report and Order*, MM Docket No. 99-325, FCC 02-286, Released October 11, 2002, at para. 26.

reception, even during daylight hours.¹³ While CEA continues to believe that the Commission should move quickly toward adoption of NRSC-5 and permanent authorizations for IBOC digital radio broadcasts in both the AM and FM bands, we also urge the Commission, in the event it is inclined to further consider AM band issues, **not** to delay permanent authorizations for IBOC digital radio broadcasts in the FM band. Furthermore, the Commission should move quickly to approve NRSC-5 as the single IBOC digital radio standard for both the AM and FM bands, since the principal remaining issue with respect to the AM band is hours of operation.

IV. INTERFERENCE CAUSED BY OUT OF BAND EMISSIONS MUST BE CORRECTED

CEA supports the comments of Broadcast Signal Lab, which urges the Commission to require broadcasters to make whatever adjustments are necessary to their transmission facilities in the event that IBOC digital radio transmissions from these facilities result in intermodulation products that cause interference to other licensed signals.¹⁴ This is a logical extension of Commission rules that already are in place for AM and FM analog transmitters.¹⁵

¹³ See Comments of Broadcast Company of the Americas LLC, at 1 (filed July 18, 2005); Gregory J. Buchwald, at 2 (filed July 18, 2005); Timothy C. Cutforth, P.E. at 1 (filed July 14, 2005); Doug Dingus, at 1 (filed July 14, 2005); Robert Foxworth, at 1 (filed July 18, 2005); Bill Harms at 1 (filed July 18, 2005); Larry Langford at 2 (filed July 22, 2005); Darwin Long at 1 (filed July 22, 2005); Barry D. McLarnon, P. Eng. at 8 (filed July 14, 2005); and Warren G. Smith, Jr. at 1 (filed July 18, 2005).

¹⁴ See Comments of Broadcast Signal Lab, LLP at 2 (filed July 18, 2005).

¹⁵ See 47 CFR Sections 73.88, 73.318 and 73.1692 (2005).

V. THE IBOC DIGITAL RADIO STANDARD'S LACK OF AN AUDIO CODEC, THOUGH NOT OPTIMAL, IS ACCEPTABLE

As CEA said in its comments, NRSC-5 would be better a better standard if it completely specified all aspects on an IBOC digital radio transmission system.¹⁶ CEA agrees with those commenters who argue that NRSC-5 would be a better standard if it included a fully defined audio codec.¹⁷ Where we differ from these commenters is in our willingness to accept NRSC-5, even though it is imperfect, because it represents the consensus of the National Radio Systems Committee's DAB Subcommittee, and because CEA believes it is very important to the ultimate success of IBOC digital radio that the Commission act quickly to bring certainty to the marketplace.

By not specifying an audio codec, NRSC-5 permits any codec to be used. Thus, if the Commission incorporates NRSC-5 into its rules, it is conceivable that some radio stations might transmit signals using one codec, and other stations might transmit signals using another codec. Receivers designed to receive signals from the first group of stations would likely not be able to receive signals from the second group of stations, and vice versa. iBiquity has indicated to the NRSC that it will license its IBOC digital radio patents to companies that wish to incorporate codecs other than its own HDC codec into their products.¹⁸

A. NRSC Consensus Development Was Not Dominated by iBiquity

The path toward a consensus for a codec-less NRSC-5 began in 2003 when a number of the broadcasters who participated in the NRSC process raised concerns about the

¹⁶ See Comments of CEA, at 2.

¹⁷ Comments of Jonathan Hardis, at 30 (filed July 18, 2005); See also Joint Comments of Microsoft, Broadcast Signal Lab LLP and Impulse Radio, at 5 (filed July 18, 2005).

¹⁸ See Letter from Albert Shuldiner, Sr. Vice President & General Counsel, iBiquity Digital Corporation to Dave Wilson, Director Technology & Standards, Consumer Electronics Association (on behalf of the NRSC), August 13, 2004.

performance of the codec that was part of the iBiquity system at that time. iBiquity attempted to address their concerns and move the standards process forward but, ultimately, was forced to redesign its system with a different codec in order to achieve a consensus within the NRSC for standardization of its system. Clearly this is evidence that iBiquity did not dominate the NRSC process. iBiquity has only one vote within the NRSC, and this one vote cannot overcome a consensus of the other voting members.

Clearly iBiquity does have some very strong leverage within the NRSC because it controls a significant amount of intellectual property that is necessary to implement NRSC-5. CEA and NAB will not publish an NRSC standard that knowingly incorporates intellectual property for which a commitment to license under reasonable and non-discriminatory terms has not been received from the owner. Therefore, prior to the publication of NRSC-5 iBiquity could, in effect, prevent NRSC-5 from being published by refusing to license its intellectual property under reasonable and non-discriminatory terms. Similarly, if there was a strong consensus against an iBiquity position within the NRSC the other members of the committee could also prevent NRSC-5 from being published by voting against it. The bottom line with respect to the audio codec was that the consensus of the NRSC was more willing to accept a standard that leaves the codec definition open than iBiquity was willing to accept a standard with a codec definition in it.

B. Adoption of NRSC-5 Would Not Prohibit the Commission from Specifying an Audio Codec in The Future

Several commenters urge the Commission to send NRSC-5 back to the NRSC with instructions to incorporate an audio codec.¹⁹ In our comments we urged the Commission not

¹⁹ See Comments of Jonathan E. Hardis, at 40 (filed July 14, 2005); Comments of Impulse Radio, at 1 (filed July 18, 2005); and Joint Comments of Microsoft Corporation, Broadcast Signal Lab LLP and Impulse Radio, at 1 (filed July 18, 2005).

to delay its consideration of NRSC-5 pending NRSC completion of the specification for the advanced data services section of the standard.²⁰ We noted that, although it will be a part of NRSC-5, the advanced data services specification will be independent enough that it could be considered separately from the rest of NRSC-5.²¹ The same argument applies to the audio codec. In the event that the Commission is persuaded by those commenters who believe that an audio codec must be specified in NRSC-5, CEA urges the Commission to nevertheless act quickly to incorporate NRSC-5 into its rules right now. It would be possible in the future for the Commission to invite public comment only on the audio codec portion of NRSC-5, leaving intact the conclusions about the rest of the standard reached during the current comment period.

Several radio receiver manufacturers have invested significantly in the development and production of IBOC digital radios because broadcasters have begun transmitting IBOC digital radio signals. If the Commission were to slow down the IBOC digital radio rollout by insisting that the NRSC go back and incorporate an audio codec into NRSC-5 there would be uncertainty in the marketplace. This would have a very negative impact on those receiver manufacturers who have worked to make the IBOC digital radio conversion a success, and would likely make them and other receiver manufacturers very reluctant to advance this technology any further until every last detail has been settled within the NRSC and at the FCC.

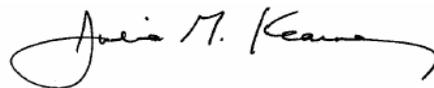
²⁰ See CEA Comments, at 3.

²¹ *Id.*

CONCLUSION

For the reasons expressed herein, CEA again urges the Commission to immediately provide permanent authorization for multicasting and datacasting, and to quickly incorporate NRSC-5 into its rules.

Respectfully submitted,



Michael D. Petricone, Esq.
Vice President, Technology Policy
Julie M. Kearney, Esq.
Senior Director and Regulatory Counsel
David E. Wilson
Director, Technology and Standards
CONSUMER ELECTRONICS ASSOCIATION
2500 Wilson Boulevard
Arlington, VA 22201
Tel: (703) 907-7644

August 17, 2005