



iBiquity Digital

Application Note

Emergency Alert System (EAS) Requirements for HD Radio™

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Overview

The purpose of this document is to make the station engineers and operators aware of the obligation to install and operate Emergency Alert System (EAS) equipment unless you have requested Non-Participating National (NN) status (Title 47 Sec. 11.41). Stations are required to extend EAS capability to all HD Radio services including Main Program Service (MPS) and all Supplemental Program Service (SPS) channels. This requirement is found under the Federal Communications Commission (FCC) Enforcement Bureau at the following internet address: <http://www.fcc.gov/eb/Orders/2005/FCC-05-191A1.html>.

This requirement must be completed by December 31, 2006.

1. FCC EB Docket No. 04-296

This partial text is taken from FCC EB Docket No. 04-296, Adopted November 3, 2005 and Released November 10, 2005. Areas which pertain to HD Radio broadcasts are highlighted in yellow. Although this document number is different than the website link above, this address will link to FCC EB Docket No. 04-296.

III. DISCUSSION

III.D. Digital Audio Broadcasting

Background. In 2002, the Commission permitted terrestrial over-the-air AM and FM radio stations to begin digital transmissions on an interim basis using the IBOC technical system developed by iBiquity Digital Corporation.⁸⁵ The Commission established interim requirements in the DAB R&O, including the requirement that, during interim IBOC operations, radio stations must broadcast the same main channel program material in both analog and digital modes.⁸⁶ In a subsequent Further Notice of Proposed Rulemaking, we sought comment regarding what amendments to the Commission's rules would be necessary to facilitate the adoption of DAB and specifically sought comment on issues related to the broadcast of emergency information.⁸⁷ Radio stations using IBOC DAB technology are able to provide enhanced sound fidelity, improved reception, multiple audio streams, and new data services to digital-ready radio receivers.⁸⁸ This technology makes use of the existing AM and FM bands (In-Band) by adding digital carriers to a radio station's analog signal, allowing broadcasters to transmit digitally on their existing channel assignments (On-Channel) while simultaneously maintaining their analog service.⁸⁹ Thus, IBOC permits the transmission of both analog and digital signals within the spectral emission mask of a single AM or FM channel, placing digital information on frequencies immediately adjacent to the analog signal.⁹⁰ This technology allows new radios to receive both digital broadcasts and analog broadcasts from stations that have not yet converted to digital.⁹¹ This system is designed to blend to analog when digital reception fails. Radio stations will eventually convert to all-digital modes of operation. DAB does not require use of additional spectrum and there is no statutory mandate to convert to a digital format. **In the EAS NPRM, the Commission noted that DAB has the ability to transmit more than one program stream in its assigned channel, a practice referred to as multicasting, and that the Commission had recently reached the tentative conclusion that the EAS rules should apply to all audio streams broadcast by radio stations using DAB.**⁹² Because most DAB broadcasters currently use the digital part of their signal to replicate their analog programming, we sought comment on whether EAS messages should be carried on the analog, digital or both program streams.

We also asked how EAS messages should be carried when a digital audio broadcaster transmits different programs on its digital and analog streams. Finally, we sought comment regarding whether IBOC receivers have the ability to be force tuned.

Discussion. **We revise our Part 11 EAS rules to apply to DAB broadcasters.⁹³ We agree with most commenters that we should extend EAS requirements to DAB providers as a natural extension of radio broadcasters' public interest obligations.⁹⁴ Accordingly, we will require DAB broadcasters to air all national EAS messages.⁹⁵ Participation in state and local EAS activations will be voluntary, as it is for analog radio broadcasters.⁹⁶ If DAB broadcasters choose to participate in state and local EAS activations, they must comply with the Commission's Part 11 EAS rules.⁹⁷ **Essentially, DAB providers will now have the same EAS obligations as analog radio broadcasters. For the same reasons we discuss in paragraphs 23-25, we will also require DAB broadcasters to transmit all EAS messages that they air on all audio streams.⁹⁸ Because DAB broadcasters will face similar burdens of equipment purchase, installation and training as DTV and digital cable providers, we apply the same date of compliance that we did for DTV and digital cable. Accordingly, these rules will be effective December 31, 2006.** As noted in the DAB FNPRM, we believe that fully informing the public of critical emergency information best serves the public interest and that this can be accomplished only if broadly applied.⁹⁹ The public interest obligations of DAB broadcasters to meet the emergency needs of their viewing audience must extend to carrying EAS alerts on all audio streams. Commenters generally agree that DAB broadcasters should participate in EAS and that EAS messages should be broadcast on all audio streams.¹⁰⁰ **We agree with commenters who argue that EAS requirements should apply to all audio streams because the goal of EAS as a public warning system is to reach as many people as possible with lifesaving information and to do otherwise would result in the reduced effectiveness of EAS as digital radio listenership increases.¹⁰¹ All listeners should be informed of critical emergency information regardless of which audio stream they are listening to.** For the reasons stated in paragraphs 23-25 with respect to DTV, we see no reason to exempt subscription-based streams.¹⁰² It would not serve the public interest to exempt DAB broadcasters as they reach increasingly large portions of the American public from EAS obligations. Additionally, although there is no deadline to do so, radio stations will eventually convert to all-digital modes of operation.¹⁰³ **Although AM and FM radio broadcast stations using DAB may need to update EAS equipment to comply with these rules, particularly with respect to transmitting EAS messages on all audio streams, commenters indicate that these updates will neither be complex nor costly. NAB and MSTV assert that "EAS functionality will be fully preserved during the transition to digital radio using the IBOC technology."¹⁰⁴ National Public Radio has also stated that, using relatively inexpensive distribution amplifiers and switching devices, stations should be able to carry EAS or other emergency information virtually instantaneously via each free over-the-air program channel.¹⁰⁵ As noted above, access to the emergency information contained in EAS messages is critical. Based on our examination of the record in this proceeding, we conclude that the costs of complying with the EAS requirements that we adopt today are outweighed by the public safety benefits of ensuring that all listeners receive EAS messages. Further, as we did above for DTV broadcasters, we afford DAB broadcasters more than a year to comply with these rules and we grant DAB broadcasters the flexibility to determine the method they will use to distribute EAS messages to listeners of all audio streams as long as all listeners receive the complete and timely EAS message on the stream that they are listening to.¹⁰⁶ SBE agrees that "whichever method yields the desired results" is acceptable.¹⁰⁷ We believe that these details are best left to industry to formulate effective methods and standards that fully integrate new and developing technologies.****

2. EAS Equipment Manufacturers

Table lists those manufacturers that were found (via Internet research) to be still manufacturing EAS equipment. Burk is no longer manufacturing EAS equipment.

Table 1: EAS Equipment Manufacturers

MANUFACTURER	INTERNET (WEB) ADDRESS	NOTES
Gorman-Redlich Mfg. Co.	http://www.gorman-redlich.com/	For further information, contact Gorman-Redlich at (740)593-3150.
HollyAnne Corporation	http://www.eas-hollyanne.com/broadcast.htm	For further information, contact HollyAnne at (308) 428-4705.
MTS Communication Products	http://www.mts-comm.com/	For further information, contact MTS at (919) 553-2995.
SAGE Alerting Systems	http://www.broadcast.harris.com/product_portfolio/product_details.asp?sku=SAGENDEC	For further information, contact Harris Broadcast Communications at (800) 662-0022.
TFT Inc.	http://www.tftinc.com/easproducts.html	For further information, contact TFT at (800) 347-3383

References

- [1] The Society of Broadcast Engineers (SBE)
Northeast Ohio Website: <http://www.broadcast.net/~sbe70/easgear.htm>

- [2] FCC Enforcement Bureau
Website: <http://www.fcc.gov/eb/Orders/2005/FCC-05-191A1.html>