

December 10, 2012



# TV TechCheck



The Weekly NAB Newsletter for Television Broadcast Engineers

## Delivering CALM

The FCC deadline for implementing Commercial Advertisement Loudness Mitigation (CALM) Act takes effect on December 13, 2012.

The bottom line for stations is that they must insure that they manage the loudness of commercials and programs. Complaints to the FCC can result in an inquiry and; the FCC has processes in place to track such complaints.

For commercials and promotional announcements, stations must operate per one or more of the six rules set forth in the FCC Report and Order in the CALM Act. (See the end of this article for a very brief recap, or the *TV TechCheck* ([FCC Orders Calm over the Land](#).)

The “Golden Rule” for audio loudness dictates that the measured loudness must match the dialnorm value sent during an audio segment. For commercials that loudness measurement is done beginning-to-end, including all audio channels (except LFE). While the CALM Act does not cover programs, A/53 (which is also in the FCC rules) has language covering program loudness. NAB believes the version of A/53 currently in the FCC regulations has an inappropriate recommendation for how to measure the audio to set the dialnorm value for programs. (NAB has recommended the the FCC to put the new version of A/53 Part 5 into the rules.) The current version of [A/53 \(Part 5\)](#) has language in Section 5.5 which provides guidance that is consistent with A/85’s recommendations on how to establish dialnorm for programs which facilitates loudness matching between the program and a commercial. This newer recommendation should be followed. It does not conflict with the FCC negotiations since the old version of A/53 Part 5 only recommends an inappropriate method. Managing both sides of the program/commercial transition is necessary to minimize the number of instances where the commercial is perceived as “loud” by consumers. The latest version of A/85 and A/53 Part 5 provide the best guidance to obtain the best results.

NAB Labs published [CALM Best Practices](#) which complements, but does not replace, the ATSC A/85 document. It summarizes the main approaches for the most common situations. Also, NAB members can access [NAB Counsel Memo on CALM Act](#) for guidance on legal responsibilities established by the Order.

While some audio encoders can read the measured loudness in the input file and dynamically adjust the encoding process accordingly, such equipment is not needed to manage loudness. The typical approach, which NAB Labs recommends, is to set a “fixed” value for dialnorm in each AC-3 encoder, and ensure that the audio sent to that encoder has loudness corresponding to that level. Most networks provide audio that has been managed to a target loudness level (-24 LKFS is typical). They have certified (or will soon) that the commercials in their feed are produced in conformance with A/85. Commercials to be inserted in the channel(s) containing such content just need to have audio that matches that loudness value. So you should have processes established before December 13th to cause the production of any local commercial to result in a match to your operating loudness level (the dialnorm level that is “fixed” in the AC-3 encoder). Your measurement equipment can use any version of BS.1770, but no other methods can be used for loudness.

Managing commercials included in content delivered from a content provider who does not certify they are in compliance is more complex. The SCTE is working on, but has not yet approved a Recommended Practice for checking content from non-certified sources. There is a provision in the rules to enable a safe harbor for such sources which requires each such (uncertified) source to be subjected to the “spot check” process before December 13, 2013. In the next year, content from non-certified sources should be checked for excessive commercial loudness as part of the ingest process. Alternative approaches for such checks are outlined in NAB Lab’s Summary of Best Practices.

The rules for Broadcasters can be found in CFR 47 §73.682(e). They are (highly) summarized below:

1. Mandatory compliance with ATSC A/85:2011 — insofar as it concerns the transmission of commercial advertisements.

2. Commercials inserted by stations — installs, utilizes and maintains in a commercially reasonable manner the equipment and associated software to comply with ATSC A/85 (including record keeping requirements).
3. Embedded commercials – safe harbor — certification or 24-hour spot check.
4. Use of a real-time processor — commercially reasonable use with some recordkeeping.
5. Commercials locally inserted by a station’s agent – safe harbor— like #3, but to cover use of a vendor.
6. Demonstrating actual compliance — alternative to #2 through 5, in response to an enforcement inquiry; certifying that its own transmission equipment is not at fault can show compliance with #1.

If you have questions feel free to call NAB at (202) 429-5346 and ask for Art Allison.

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