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TV TechCheck



The Weekly NAB Newsletter for Television Broadcast Engineers

FCC Orders CALM over the Land

On December 13, 2011, the Federal Communications Commission adopted an Order required by the Commercial Advertisement Loudness Mitigation (CALM) Act designed to prevent commercials from being louder than programs surrounding them (see [July 11, 2011](#) issue of *TV TechCheck*).

The Order incorporates the entire ATSC Recommended Practice on *Techniques for Establishing and Maintaining Audio Loudness for Digital Television (ATSC A/85)* into the regulations and makes A/85 mandatory for managing relative loudness of commercials and programs. The FCC plans enforcement to be based upon patterns of public complaints, instead of an audit program.

First and foremost, all television broadcast stations (and MVPDs) are deemed ultimately responsible for controlling the loudness of all commercials they transmit (with respect to the program segments before and after them). Stations are expected to directly (or indirectly) follow the recommendations in ATSC A/85 to measure and thereby control the loudness of the audio segments fed to the service's AC-3 encoder (regardless of its physical location). There are multiple approaches available to broadcasters that can mitigate their exposure to a Notice of Apparent Liability for loudness violations.

Most stations will find that operating at a fixed loudness (as measured per ATSC A/85) and leaving the "dialnorm" setting constant in the AC-3 encoder will be the most practical implementation approach.

Stations technically can choose a different fixed operating loudness value for each program source (virtual channel); however, the loudness of the network feed will establish that virtual channel's operating point. Further, since program providers have many distribution outlets, and typically do not want to deliver different levels to different outlets, expectations are that most sources will be delivered to stations at the recommended operating loudness of -24 LKFS (as measured with the ITU BS.1770-1 method). This value is then entered into the AC-3 encoder's "dialnorm" setting.

The rules for broadcasters will be in Part 73.682(e), and include six major sections. The first section covers compliance with ATSC A/85, as briefly described above. The remaining sections cover the following:

1. Commercials inserted by stations
2. Embedded commercials – safe harbor
3. Use of a real-time processor
4. Commercials locally inserted by a station's agent – safe harbor
5. Demonstrating actual compliance

For commercials inserted by stations (1, above), the rule reads:

"A television broadcast station that installs, utilizes and maintains in a commercially reasonable manner the equipment and associated software to comply with ATSC A/85 shall be deemed in compliance with respect to locally inserted commercials, which for the purposes of this provision are commercial advertisements added to a programming stream by a station prior to or at the time of transmission to viewers. In order to be considered to have installed, utilized and maintained the equipment and associated software in a commercially reasonable manner, a television broadcast station must

- (i) install, maintain and utilize equipment to properly measure the loudness of the content and to ensure that the dialnorm metadata value correctly matches the loudness of the content when encoding the audio into AC-3 for transmitting the content to the consumer;
- (ii) provide records showing the consistent and ongoing use of this equipment in the regular course of business and demonstrating that the equipment has undergone commercially reasonable periodic maintenance and testing to ensure its continued proper operation;
- (iii) certify that it either has no actual knowledge of a violation of the ATSC A/85 RP, or that any violation of which it has become aware has been corrected promptly upon becoming aware of such a violation; and
- (iv) certify that its own transmission equipment is not at fault for any pattern or trend of complaints.”

For the "embedded commercials - safe harbor" situation (2, above), the rule is much more complex. The Order presents the FCC's determination that the CALM Act establishes stations as ultimately responsible for the loudness of all commercials broadcast -- even those inserted upstream. In general, it calls for stations with annual receipts of more than \$14 million to either obtain a certification from the upstream provider that it is A/85-compliant, or perform at least two annual tests on that provider's content to verify its loudness compliance. Either of these alternatives establishes a degree of protection ("safe harbor") against fines to the station in the event that excessively loud commercials are inserted upstream and cause complaints.

If the spot-check approach is taken, the first check must be completed by December 13, 2012. (Spot checking is defined to include 24 hours of measurement and analysis of the audio loudness transmitted by the broadcast station. The Order includes various suggestions and requirements on how to implement the spot-checking process.) This section also includes a requirement to perform a 24-hour spot-check after a "pattern of complaints" result in an FCC inquiry, with a progressive escalation process that can lead to fines in the event of continued non-compliance.

The Order also provides the option (3, above) for a station's use of a properly maintained real-time audio processor, with record-keeping requirements for demonstrating its consistent and ongoing use.

Also contained in the Order (4, above) is the option to establish a safe harbor for the special case where commercials are locally inserted by a station's agent. Stations may demonstrate compliance by relying on the third-party local inserter's certification of compliance with ATSC A/85, conditional upon meeting the terms detailed in the Order's relevant subsection.

Finally, a station also may document actual compliance with ATSC A/85 with regard to any commercial advertisements that may become the subject of an inquiry, and certify that its own transmission equipment is not at fault for any such pattern or trend of complaints (5, above).

The Order further explains that if after a broadcaster informs an upstream source of a loudness issue, and it is not fixed in a timely fashion, that each station carrying that source's content will be subject to liability if the problem persists. The progressive test and report process outlined in the Order should provide incentive to the source to fix the problem, given that some stations might stop carrying the source's content to avoid financial exposure.

A streamlined financial hardship waiver for some of the above processes is available to small broadcast stations. A "small broadcast station" is defined for purposes of the streamlined waiver as either a station with no more than \$14 million in annual receipts, or one that is located in television markets 150 to 210. Small broadcast stations must file for such waivers by 60 days prior to the effective date of the rules.

The situation for MVPDs is more complex, but similar in structure. Complaints to the FCC about a broadcaster's commercials delivered by a MVPD are to be sent directly to the broadcaster being carried, and the MVPD has no testing or certification responsibility for broadcasters' signals – just a requirement to certify they did not alter the broadcaster's signal.

Alabama Broadcasters Association Establishes Broadcast Engineering Academy

On December 15, 2011, the Alabama Broadcasters Association (ABA) announced the establishment of a Broadcast Engineering Academy at the ABA office in Hoover, Ala. This effort was taken in response to a perceived, growing need for engineers across Alabama and the entire U.S.

ABA will work with the Society of Broadcast Engineers to ensure that the academy will become an eligible SBE-certified training institute. ABA is also partnering with a local career college to establish a pilot program with Networking and Electrical Engineering students. ABA-member radio and TV stations will be encouraged to send employees to the academy for additional training. Other state broadcast associations will also be invited to send students to the Academy.

The ABA Broadcast Engineering Academy will create apprenticeship and internship programs to place students at Alabama stations to gain more practical experience. The academy's first classes are scheduled to begin in late May 2012.

For more information, contact ABA President Sharon Tinsley at stinsley@al-ba.com or (205) 982-5001.

NAB Accepting Nominations for 2012 NAB Engineering Achievement Awards

NAB is currently accepting nominations for the 2012 NAB Engineering Achievement Awards. Established in 1959, the NAB Engineering Achievement Awards are presented each year to individuals for their outstanding accomplishments in the broadcast industry. In 1991, NAB began giving awards separately for achievements in radio and television. The award winners will be recognized at the Technology Luncheon at 2012 NAB Show on April 18 in Las Vegas, Nev.

Additional information and a nomination form are available on NAB's [website](#). The deadline for nominations is January 23, 2012.



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