



Connecticut Association
of Theatre Owners

COMMENTS REGARDING CONNECTICUT RAISED BILL No. 287:
An Act Concerning the Maximum Decibel Level at Movie Theatres

On behalf of CATO (Connecticut Association of Theatre Owners), an association representing Movie Theatres throughout Connecticut, we respectfully submit these written comments in opposition of Connecticut Bill 287. Our position is based on the following issues:

- First and foremost, movie theatre owners strive to provide guests with a comfortable and enjoyable movie going experience. This would include, but is not limited to, taking major steps to improve the presentation of filmed entertainment with clear focused pictures and dynamic yet controlled sound. Filmgoers that have a superior experience will return often, something theatres rely on to stay in business.
- While theatre owners understand the intended concept of this legislation, they do not believe regulation on the creative and/or playback side will yield better results than the industry's self-imposed high standards and quality controls already in place, and they further do not believe that the proposed legislation references factual scientific information on which to base a maximum level.
- The proposed legislation measurement of 85 decibels is an abstract term to the average filmgoer and takes sophisticated and scientific equipment to properly measure. Acceptable sound levels as heard by the public can vary from person to person and their personal perception. Films seek to replicate what we hear in our daily lives, from whispers to outbursts. Setting a maximum decibel limit would not account for the difference between short outbursts like a bell or whistle and sustained loud or annoying noise.
- Theatre owners and managers have policies and procedures to ensure volume control in their theatres. Managers are directed to respond to guest feedback regarding comfort, and make adjustments accordingly.
- Movie theatre sound systems are regularly checked and calibrated by sound technicians to ensure consistency with the produced film when their volume control (commonly called the fader) is set to 7. That said, based on a films' genre there will still be loud movies and quiet movies, and theatre managers will adjust to lower levels as appropriate for patron comfort. With their guests in mind, it is not uncommon for theatres to set their fader back to 5 or 6, compared to the normal setting of 7.
- During the 1990's, in response to guest feedback regarding inconsistent volume levels between trailers and films shown in theatres, NATO (National Association of Theatre Owners) asked the major studios voluntarily to establish sound level standards, so that movie goers throughout the United States would be assured that sound levels were both consistent, reasonable and safe.
- TASA (Trailer Audio Standards Association) was created and established a measurement technique called Leq(m), which measures the average of a two to three minute trailer and set a maximum Leq(m) level permitted on a trailer. Since 1999, film trailers have been checked for TASA compliance. Further, the maximum permissible level has been lowered so that today, the loudest trailer is constrained at 85dB Leg(m), the equivalent of 50% of the level of the loudest trailers in 1996.
- For further reference on this issue, please refer to the attached report titled "A Primer on the Level of Features, Trailers, and Commercials as Heard in the Cinema" and the TASA website at www.tasatrailers.org.

Respectively Submitted,
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A Primer on the Levels of Features, Trailers and Commercials as Heard in the Cinema

Sound Levels in the Cinema

Cinema is a closed-loop system, unlike broadcast. The broadcaster has no control over how loud the consumer plays back his radio or TV, or how the tint/color control is set on the television. Cinema, on the other hand, has always attempted to replay the exact experience set by the director and film maker when the movie plays to its audience in the local cinema. In other words, the target has been to establish the light levels, color, sound levels etc. in the cinema the same as those approved and established by the film maker. And the experience should be the same and as good in every cinema.

The criteria for sound levels, color, screen brightness etc. are set by *standards*. These are established for movie production and exhibition by US national standards bodies *ANSI* (American National Standards Institute) and *SMPTE* (Society of Motion Picture and Television Engineers) and internationally by the *ISO* (International Standards Organization).

Reference levels

Every projection room has a cinema audio processor which controls the sound for one screen. The vast majority of cinema audio processors have a volume control (commonly called the *fader*) scaled from 0 to 10. Fader 7 is known as the *reference level*. From the mid-1970's on, a process was adopted to ensure that fader 7 means the same in every theatre. Test signals (known as *pink noise*) are used when the sound system is installed to calibrate the fader 7 sound pressure level. There will still be loud movies and quiet movies - what this system ensures is that a film sound-track created in a *mix room* in Hollywood which is set to fader 7 will sound at the same level in a theatre playing the same movie in New York when the fader in that cinema is also set to 7. The same matched levels apply not only in the US, but in virtually every country world-wide. A movie mixed in London should play at the same level when heard in Los Angeles.

This procedure is defined in the US by SMPTE RP200 (*Relative and Absolute Sound Pressure Levels for Multichannel Sound Systems...*) and internationally by ISO 22234.

Technology enables Louder Movies

There have been several technological steps in movie sound since the mid-1970's which have allowed the film maker to create increasingly dynamic movies - leading up to today's powerful digital sound-tracks. But it should be realized that it is *not the cinema* that determines the level - if the theatre plays the movie at fader 7, it will just be reproducing the level chosen by the film-maker. And while an occasional rogue film-maker will make an action film with an excessively loud sound-track, most films play acceptably at the reference level. When a cinema does encounter a movie that seems to play too loud for its audience, a decision will be taken in that cinema to play the feature at a level lower than reference 7, at say fader 5 or 6.

1990's - Competitive Trailers - Loudness Wars

Though many played satisfactorily at fader 7, the competitive nature of trailers meant that by 1996 some were painfully loud. *Trailer finishers* were reluctant to lower the level of their product for fear it sounded quieter than trailers from a competing studio. Many theatres had no method of automating the fader setting independently for the trailers and the feature (and indeed many still don't have the capability). And with ten or even twenty screens in a multiplex site, there is no projectionist available to adjust the fader setting between trailer and feature. Complaints about the level of the trailers would result in the fader setting being lowered to 6, 5 or even 4, and this would be the level the feature played at - and this lowered feature level inevitably damaged the intelligibility of the dialog. And there is no worse cinema audio problem than having the dialog at too low a level - the "what did he say?" syndrome.

Recognizing that the situation was getting worse and worse, the major Hollywood studios created a group called *TASA* (Trailer Audio Standards Association). The group established a measurement technique called *Leq(m)*, which measures the average level of a two or three minute trailer. It should be noted that this is the actual level recorded onto the film, not the playback level in a cinema, which is still determined by the fader setting, in each individual auditorium, reference 7 or lower.

TASA established a maximum *Leq(m)* level permitted on a trailer –since 1999 every US trailer has been checked for compliance (about 3200 titles so far). The maximum permissible level has steadily been lowered -the loudest trailer today is constrained at 85 dB *Leq(m)*, the equivalent of 50% of the level of the loudest trailers in 1996. The TASA measurements are submitted to the *MPAA* (Motion Picture Association of America), who will not issue a rating (green band) to a trailer that is louder than the standard. The *Leq(m)* procedure for loudness measurement is defined in ISO 21727 - *Method of measurement of perceived loudness of motion-picture audio material*.

Nielsen Survey/NATO

In 2004 Dolby Laboratories and Disney commissioned a Nielsen Survey to assess the public's view of the loudness of cinema material. With close to 3000 respondents, 75% thought the level of trailers was about right, 4% thought the trailers were too quiet, and 21% thought the trailers were too loud. Over the first few years of implementation of the TASA program, the number of complaints about trailer level received by NATO (The National Association of Theatre Owners) dwindled to virtually none. These two metrics suggest that trailers are now at or close to an acceptable level.

International Trailers and Commercials

The same method of measuring trailer loudness has been adopted in almost every country overseas, and 85dB *Leq(m)* is the permissible limit, as in the US. Additionally, all cinema commercials are constrained to a maximum of 82dB *Leq(m)* internationally – similar constraints have recently been announced in the US by the *CAC* (Cinema Advertising Council).

Action trailer, quiet feature

Despite the fact that the existing procedures, both for set-up and playback level in the cinemas, and for measurement and constraint of the recorded level of the program, are working fine, two occasional problems remain. First, because of some production error, a rogue commercial or trailer could get through above the maximum level -but this happens so rarely as to be considered negligible. The regulations are so strictly enforced that in a couple of cases trailers have been remade (at considerable expense) in order to comply with TASA's (and the MPAA's) level regulations.

The second problem is more difficult, and practically impossible to solve. For example, let's say that half the features are action films, and half are quiet dialog movies. We can assume the same mix of trailers. As a result, half of the time the trailer for an action film will immediately precede a quiet dialog film. In this instance, the trailer will always sound louder than the feature. Even if there was a projectionist around to lower the level of this one trailer by hand, this lowering of level would take all the excitement out of the trailer and the artistic intent would not be preserved.

Presenting everything in the cinema at the *correct* sound level, and with adequate light on the screen, ensures a movie-going experience superior to anything possible in the home – even in these days of home theatre!

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