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December 18, 1997

VIA MESSENGER

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: Corrected Copy of Tribune Broadcasting Company Comments filed in Support of MSTV's Ex Parte Submission filed in MM Docket No. ~~97~~-268
81

Dear Ms. Salas:

Tribune Broadcasting Company, by its undersigned attorneys, hereby files this corrected version of the Comments it filed with the Commission yesterday in Support of MSTV's Ex Parte Submission in the Advanced Television Proceeding. This version corrects typographical errors, and adds citations and several short textual passages that were inadvertently omitted from the Comments filed yesterday.

In light of the foregoing, Tribune Broadcasting respectfully requests that the Commission accept the corrected version of its Comments. Please direct any questions to the undersigned.

Sincerely,

Thomas P. Van Wazer

R. Clark Wadlow
Thomas P. Van Wazer

Enclosures

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Before the
Federal Communications Commission
Washington, D.C. 20554

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DEC 18 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service	MM Docket No. 87-268

TO: The Commission

COMMENTS ON TRIBUNE BROADCASTING IN SUPPORT OF THE EX PARTE SUBMISSION OF THE ASSOCIATION FOR MAXIMUM SERVICE BROADCASTERS, INC., ET. AL.

Tribune Broadcasting Company ("Tribune"), by its attorneys, hereby files these Comments in Support of the Ex Parte Submission and accompanying Improvements to the DTV Table submitted by the Association for Maximum Service Broadcasters, Inc. and Other Broadcasters (collectively "MSTV").[1] Tribune joined in MSTV's Ex Parte Submission and is filing these comments to highlight several important issues addressed by MSTV's submission.

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[1] See Ex Parte Submission Based On New Technical Discoveries To Help The Commission Improve The DTV Table Of Allotments/ Assignments Submitted By The Association For Maximum Service Television, Inc. And Other Broadcasters ("MSTV Ex Parte Submission"), filed November 20, 1997. The MSTV Ex Parte Submission was placed on public notice on December 2, 1997 by the Chief of the Office of Engineering and Technology.

Tribune applauds the Commission's efforts to date in facilitating the transition of the over-the-air industry to a digital world. Tribune submits that prompt Commission action adopting the Improvements to the FCC's table proposed to correct both DTV-DTV adjacent interference and other problematic allocations in the so-called Acute Problem Areas will facilitate (rather than delay) the over-the-air industry's transition to a digital environment.

I. MSTV's Proposed Improvements Are Consistent with the Commission's Obligations Under the Balanced Budget Act

In the Commission's companion rulemaking addressing the proposed reallocation of channels 60-69, Tribune has already demonstrated that the Commission's DTV channel 68 assignment for KTLA in Los Angeles, replete with its 1 million watt ERP, is inconsistent with the plan to reallocate channels 60-69 for land mobile and public safety operations.[2] Tribune demonstrated that the sideband splatter caused by KTLA's 1 million watt DTV operations on channel 68 in Los Angeles would cause unacceptable levels of interference to adjacent-channel public safety and land

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[2] Comments of Tribune Broadcasting in ET Docket No. 97-159, Reallocation of Television Comments 60-69, the 740-806 MHz Band, filed September 15, 1997. Tribune supplemented its Petition for Reconsideration of the Sixth Report & Order in this proceeding to include its comments in ET Docket No. 97-157. Tribune Broadcasting's Supplement to its Petition for Reconsideration, in MM Docket No. 87-268, filed September 15, 1997.

mobile operations, which would be operating at significantly reduced power.

MSTV's suggested Improvements correct the problem previously identified by Tribune by removing KTLA's 1 million watt DTV assignment from the 60-69 range. Given the severe congestion in and around the Los Angeles area, Tribune submits that the Commission should approve the MSTV Improvements because it eliminates a DTV assignment that threatened to make 3 channels in the 60-69 range unusable by public safety or land mobile operators.

II. MSTV's Proposed Improvements Correct Current DTV Assignments That Will Cause Significant Amounts of Interference

Tribune submits that MSTV's proposed Improvements should also be adopted because they correct several severely short-spaced DTV assignments in the Hartford-New Haven area. Tribune has previously submitted its own Petition for Reconsideration, as well as a joint submission with other Hartford-New Haven licensees, demonstrating that the Commission's current DTV Table will cause unacceptable, additional interference to the NTSC service currently enjoyed by millions of viewers in the Northeast corridor.

Tribune respectfully submits that the Commission must address this interference problem before finalizing the DTV table. The Improvements submitted by MSTV, which necessarily require a small number of additional assignments on channels 60-69 in the Northeast corridor -- one of the Acute Problem Areas, represent a workable, practical solution to these problems. Without such action, the Commission's goal of a rapid transition to a digital environment will be jeopardized. The Commission cannot expect a rapid transition if it adopts a table that significantly erodes the revenue production capacity of the industry's NTSC operations at a time when it expects the industry to use those revenues to construct and operate a second station -- a station that will have no marketable audience in at least the short to medium term.

The Improvements submitted by MSTV also correct severe DTV-DTV adjacent channel interference problems. In particular, as noted in the MSTV Ex Parte Submission, the Improvements to the FCC's table revise the DTV assignments in and around the Miami Florida market. These changes improve the NTSC service area replication figures achieved by WDZL's DTV assignment, one of Tribune's stations, from 52.9 percent to 98.8 percent. Tribune submits that there can be little question that such a significant improvement in DTV service is decidedly in the public interest.

III. The FCC Should Eliminate The RF Mask

In an earlier submission in this proceeding, MSTV and the Broadcasters Caucus urged the Commission to reconsider the RF emission mask specified in the Sixth Report & Order because it not only was inadequate for DTV-to-NTSC adjacent channel protection but was also inadequate for DTV-to-DTV adjacent channel protection.[3] MSTV and the Broadcasters Caucus instead urged that the FCC's fixed mask be replaced "by a specification of total average power in the adjacent 6 MHz channel, weighted in the case of an adjacent channel NTSC assignment, but unweighted in the case of an adjacent channel DTV assignment."[4]

The MSTV Ex Parte Submission again referenced this proposal as "one way to slightly lessen the impact of adjacent channel interference problems." MSTV Ex Parte Submission at 6 n.13. Tribune strongly urges the Commission to abandon the RF Mask. Tribune respectfully submits that MSTV's proposal will more than "slightly lessen" the impact of adjacent channel interference because it will encourage the Industry to work with transmitter manufacturers to devise the most efficient

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[3] Comments On and Opposition to Petitions for Reconsideration of the Fifth and Sixth Reports and Orders Submitted by the Association for Maximum Service Television, Inc. and the Broadcasters Caucus, MM Docket No. 87-268, at 30 (July 28, 1997).

[4] Id.

technological solutions to resolving adjacent channel interference. From an industry perspective, Tribune submits that the Commission should write its DTV rules to accommodate these technological improvements rather than codifying a fixed emission mask based on current transmitter technology.

Two studies conducted by the Advanced Television Center ("ATTC") and submitted to the Commission by MSTV clearly demonstrate that the FCC's current mask does not protect either NTSC or DTV adjacent channels.[5] However, rather than trying to redo the mask, the Commission should instead regulate DTV interference by limiting the amount of power emitted into adjacent channels.

Tribune submits that substantial evidence supports this proposal. In an experiment conducted by Harris Corporation, a bandpass filter reduced the subjective effect of sideband splatter from DTV signal into an adjacent channel NTSC signal by 12 dB.[6] This experiment also noted that the "IMD Shoulder levels

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[5] See "An Evaluation of the FCC RF Mask for the Protection of DTV Signals from Adjacent Channel Interference," Advanced Television Technology Center, ATTC Document No. 97-06 (July 17, 1997); "An Evaluation of the FCC's Proposed RF Mask for the Protection of Adjacent Channel NTSC Signals," Advanced Television Technology Center, ATTC Doc. No. 96-02, October 22, 1996.

[6] See R.J. Plonka, Principal Engineer, Harris Corporation, Broadcast Division, "Transmitter Considerations for ATV", Harris Corporation, Broadcast Division, November 22, 1996 (see Slide 28).

emerging from the DTV spectrum cannot be reduced with a practical filter, but can be reduced with transmitter linearization."[7] Despite the 12 dB improvement with this filter (that is, the signal strength of the adjacent DTV channel could be increased by 12 dB without causing adjacent channel interference using this filter), its use would not be encouraged because the FCC's RF mask requires -35 dB attenuation of sideband splatter at the shoulder of the adjacent channel.

However, as demonstrated by the ATTC, the shoulder level is not a critical factor in protecting NTSC signals.[8] The ATTC carried out a series of measurements aimed at determining the appropriate noise weighting for an NTSC signal. The ATTC specifically measured the effect of random noise in 0.5 MHz portions of bandwidth in a typical NTSC channel. An ATSC subcommittee has reviewed these results, made some minor modifications and has proposed a table of noise weightings appropriate to evaluate sideband splatter into NTSC channels.

These noise weightings were referenced in a Zenith Electronics paper attached as Exhibit 2B to MSTV's Ex Parte

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[7] Id. (See Slide 29).

[8] See "Results of RF Mask Test by the Advanced Television Technology Center" (June 13, 1996).

Filing.[9] A review of these noise weightings clearly reveals that the visual effect of noise at the edges of the NTSC channel is very small compared to the effect the same level of noise power has at the critical frequencies within the NTSC channel -- specifically at the visual carrier and to a lesser extent at the color subcarrier frequency.

Given this analysis, the FCC should abandon its RF Mask because it requires a far larger reduction of noise at the edge of an adjacent NTSC channel -- a reduction that is not necessary to protect an adjacent NTSC. The adoption of limit based instead on weighted noise power would provide Broadcasters with the flexibility to rely on filters or transmitter technology improvements to comply with the Commission's interference requirements. Tribune submits that the total effective weighted noise power limit set by the FCC for DTV into NTSC interference should apply only where interference to an NTSC channel is predicted and should not outlive the NTSC operations being protected.

Tribune submits that the Commission should adopt a similar limitation for DTV to DTV adjacent channel interference, except that the limit should apply to total unweighted noise

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[9] See Carl Eilers & Gary Sprignoli, "Analyzing the FCC's DTV Spectral Emission Mask and Potential Degradation to Adjacent Channels Due to Antenna Pattern Differences," Zenith Electronics Corporation at 3.

power. Like NTSC receivers, DTV receivers are not susceptible to interference at the edge of the channel. Moreover, considerable evidence suggests that no one single attenuation level will protect adjacent channel DTV reception throughout the service area of the adjacent channel. Thus, rather than requiring compliance with a Mask that requires one specific attenuation level up to the channel edge, the Commission should limit the total amount of power emitted into an adjacent DTV channel and provide flexibility to the industry to use the full panoply of appropriate technologies to comply with this noise power limitation. In this way, the industry would be free to adopt different technological solutions warranted by the specific circumstances of a given station's operating characteristics and the topography of its service area.

In the event the Commission declines to abandon the RF Mask entirely, Tribune urges the Commission to redo it. There can be no dispute that the -35 dB attenuation level currently required by the Mask is not adequate to protect adjacent NTSC or DTV channels. Accordingly, the Commission must, at a minimum, specify a new level of attenuation for adjacent channel protection. In redefining the Mask, the Commission should actively consult with transmitter manufacturers to determine a practical attenuation level that can be realistically and

efficiently achieved by those manufacturers on a mass produced scale.

IV. Conclusion

As noted above, Tribune submits that the Commission should act to implement the Improvements submitted with the MSTV Ex Parte Submission -- improvements designed to eliminate two systemic flaws in the current DTV table. These changes, together with the replacement of the RF Mask, will facilitate the transition to a digital environment.

Respectfully submitted,

TRIBUNE BROADCASTING COMPANY

by Thomas P. Van Wazer

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Dated: December 18, 1997