

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

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In re )  
 )  
Amendment of Part 74 of the )  
Commission's Rules With Regard ) MM Docket No. 93-24  
to the Instructional Television )  
Fixed Service )

To: The Commission

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FEDERAL COMMUNICATIONS COMMISSION  
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**REPLY COMMENTS OF WIRELESS HOLDINGS, INC.**

Wireless Holdings, Inc. ("WHI"), by its attorneys, hereby submits its Reply Comments in the above-captioned proceeding.<sup>1</sup>

**Introduction**

WHI and affiliated companies operate wireless cable systems in the San Francisco/San Jose, Spokane and Tampa markets, serving approximately 19,800 subscribers. Numerous other markets are under development.

WHI submits these Reply Comments to address the matter of frequency offset and one issue that has been raised for the first time in this proceeding by some commenters -- whether the signal protection ratio standards currently used by the Commission are adequate to protect ITFS station reception and are justifiable from a technical standpoint. As set forth below, WHI believes it is

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<sup>1</sup>On August 29, 1994, WHI filed Joint Comments with five other wireless cable operators (hereinafter referred to as "Joint Comments") in response to the Commission's Order and Further Notice of Proposed Rule Making ("Notice"), 9 FCC Rcd. 3348 (1994), in this proceeding. WHI is also participating in Joint Reply Comments being filed separately on this date by those wireless cable operators.

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premature for the Commission to consider changing the protection ratios in current use. While WHI believes that the protection ratios are probably in need of modification, those parameters are of such fundamental importance to ITFS and wireless cable service that they should only be altered after notice from the Commission and the development of a full and complete record. WHI is in the process of studying this matter and, should the Commission call for further comment, intends to contribute technical and other information to the record.

**I. IT IS PREMATURE FOR THE COMMISSION TO CONSIDER CHANGING THE ITFS SIGNAL PROTECTION RATIOS IN CURRENT USE.**

In the Notice the Commission cited its current policy of applying a 28 dB desired-to-undesired (D/U) signal protection ratio to determine co-channel interference where a 10 kHz standard frequency offset is used between stations, and its policy of encouraging "privately negotiated agreements to use offset to resolve interference." Notice, 9 FCC Rcd. at 3351-52. The Commission sought comment on requiring the use of offset "when all affected transmitters are capable of handling frequency offset stability requirements." Id. at 3352.

WHI supports the Commission's proposal to require the use of frequency offset, and urges the Commission to extend the rule further to require ITFS stations to accept the use of offset and any necessary upgrades of transmitter equipment where the proponent of such a change agrees to pay the reasonable costs of the affected

parties, as suggested by other commenters.<sup>2</sup> This offset/cost reimbursement procedure should include proposals to use precision offset, which the Commission should define as control of frequency stability to within  $\pm 3$  Hz of an offset frequency of plus, zero or minus 10,010 Hz.<sup>3</sup> As noted in this proceeding, there is much to be gained in interference reduction and spectrum efficiency through more universal use of frequency offset. Present Commission policy regarding offset use essentially requires that a proponent secure "no objection" letters from affected stations, even in some cases where an affected station is already on record as having a frequency offset. The current requirement of permission from affected stations limits the practical opportunity for the use of frequency offset, and should not be required where an offset proposal complies with the Commission's technical standards and the proponent agrees to payment of reasonable costs.<sup>4</sup>

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<sup>2</sup>See, e.g., Comments of Hammett & Edison, Inc., p. 2; Comments of RuralVision South, Inc. and RuralVision Central, Inc., p. 9; Comments of Hardin and Associates, Inc. ("Hardin Comments"), p. 3.

<sup>3</sup>WHI disagrees with the comment of The Wireless Cable Association International, Inc. that the costs of using precision offset are "prohibitive, and the results uncertain at this time." Comments of The Wireless Cable Association International, Inc. ("WCAI Comments") at 31 n.52. Since the 1992 technical note to which WCAI refers, advancements in equipment technology and availability have reduced the cost of precision offset equipment to reasonable levels. WHI has tested precision offset applications and has found it to be a highly effective and useful tool in designing systems, which renders acceptable performance. WHI recently purchased such equipment for use in some of its systems.

<sup>4</sup>As set forth below, the applicability of this modified offset rule should be temporarily limited to situations in which offset is used to allow co-location of facilities until such time as the matter of protection ratios is resolved.

Nevertheless, WHI takes issue with the suggestion of WCAI and others that the Commission should act now to alter the ITFS signal protection ratios applicable to frequency offset. WCAI comments that "[w]hile it is beyond dispute that a 28 dB D/U cochannel interference protection standard is appropriate" for television broadcasting, "there is absolutely no evidence in the record before the Commission that such a standard is appropriate" for ITFS stations. WCAI Comments at 30. Based upon what it vaguely refers to as "[t]ests conducted by members of WCAI's Technical Committee," WCAI urges that the Commission modify its protection ratios to require that, even where offset can be employed, "no facility will be subject to a cochannel D/U ratio of less than 39 dB without its consent." Id. at 30-31.<sup>5</sup>

WHI could not agree more with WCAI that there is "absolutely no evidence in the record" on the technical merits of ITFS protection ratios.<sup>6</sup> WCAI and Hardin urge the Commission to alter the signal protection ratios in the Commission's Rules -- the foundation of the Commission's regulation of ITFS service and the ITFS licensing process -- without any technical showing

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<sup>5</sup>Similarly, Hardin suggests without elaboration that "the general consensus" of participants in "[s]ome less rigorous research" has been that a D/U ratio of 35 dB is necessary for offset operation, coupled with precision frequency control. Hardin Comments at 3. In addition, The Educational Parties state their "understanding that the Commission will consider whether a D/U ratio of greater than 28 dB" is appropriate. Joint Comments of Educational Parties, p. 18.

<sup>6</sup>Hardin likewise comments that, while 28 dB is "the accepted standard," it has "generally, not been based on applicable research." Hardin Comments at 2.

establishing the bases for the new standards they propose.<sup>7</sup> WHI accepts the idea that the protection ratios may be in need of modification, but believes that the Commission should not act to modify these parameters on the basis of the anecdotal suggestions in these comments.

Although this proceeding is directed to ITFS matters, any change in the ITFS protection ratios would directly impact on MMDS service.<sup>8</sup> WCAI, Hardin, WHI and others have advocated that the Commission conform its ITFS modification rules to those of MMDS.<sup>9</sup> At present, the co-channel protection ratio requirements underlying modifications are the same for ITFS and MMDS. Unilaterally changing the ITFS protection ratios in this proceeding as advocated by WCAI and Hardin would create an inappropriate disparity between the rules which would be inconsistent with what the parties have otherwise advocated.

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<sup>7</sup>Although WCAI and Hardin criticize the present protection ratio system, which has been used for almost 50 years for NTSC video transmissions, neither commenter provides any technical showing establishing their assertion that the present standards are inappropriate for ITFS frequencies. This dearth of technical information underscores the need for further notice and comment on the matter of protection ratios.

<sup>8</sup>Grandfathered ITFS stations exist on the E and F Group channels and therefore can be co-channel to MMDS stations. In addition, as pointed out by WHI and others in this proceeding, some of the channels of the two services are adjacent and are interleaved such that modification of a station in one service on such channels can have an effect upon and must be coordinated with the other service. Joint Comments at 15.

<sup>9</sup>WCAI Comments at 39-41; Hardin Comments at 3; Joint Comments at 15-16.

The ongoing development of digital video transmission technology and the likelihood that ITFS licensees will convert to such technology in the near future further underscores the need for a fuller record on this matter. Just as the protection ratios and other matters are the focus of detailed study in the Commission's advanced television proceedings for broadcasting in MM Docket No. 87-268, the transmission factors for digital technology (and how it interacts with analog NTSC transmissions) must be studied as they pertain to ITFS frequencies, and should be a consideration in any review of the protection ratios for ITFS.

WHI strongly urges the Commission to issue a Further Notice of Proposed Rule Making on the signal protection ratio issue, which would give proper notice<sup>10</sup> to the ITFS industry and the public generally and allow the Commission properly to build a record, including technical analyses, upon which a reasoned decision can be made. WHI itself is studying various protection ratios and their impact on ITFS systems. One of the concerns in WHI's studies is whether greater protection ratios may limit the ability of ITFS licensees to serve geographically difficult areas through the use of multiple sites, as some ITFS licensees do at the present time and others may want or need to do in the future. WHI is most interested in submitting technical findings to the Commission if

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<sup>10</sup>There is some question whether adoption of changes to this fundamental element of the Commission's licensing system is appropriate under the Administrative Procedure Act, 5 U.S.C. §553(b), where the Commission has not given notice that changes in the standards are under consideration.

the Commission provides the public an opportunity to do so at a later date.

During the pendency of further Commission review of this matter, the Commission should adopt the changes in the offset rule as suggested above, but temporarily limit the applicability of the modified rule to situations in which an offset proponent seeks to use offset in order to allow co-location of facilities. Temporarily limiting the applicability of the new rule will prevent applicants from taking advantage of mandatory offset under the current protection ratio standards, while the efficacy of those standards is under further study and Commission consideration.

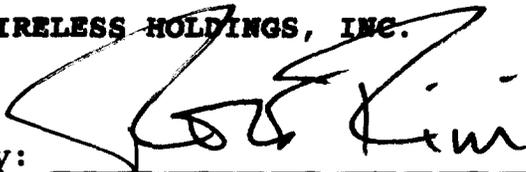
Should the Commission feel compelled to modify the ITFS protection ratios without such notice and additional record, preliminary studies by WHI indicate that higher protection ratios of 39 dB D/U with standard 10 kHz plus, zero or minus offset ( $\pm 1$  kHz tolerance) or 32 dB D/U with use of precision 10,010 Hz plus, zero or minus offset ( $\pm 3$  Hz tolerance) may be appropriate.

**Conclusion**

For the reasons stated above, Wireless Holdings, Inc. supports the Commission's efforts to increase the use of frequency offset for interference reduction and spectral efficiency. The Commission should not, however, modify its ITFS signal protection ratios, as suggested by commenters, without properly developing a complete record before it on the issue. The Commission should issue a Further Notice of Proposed Rule Making on the matter prior to taking any action on it.

Respectfully submitted,

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September 28, 1994

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**CERTIFICATE OF SERVICE**

I, Victor Onyeoziri with the law firm of Rini & Coran, P.C., do hereby certify that the foregoing "Reply Comments" was served on the below listed parties by First Class U.S. Mail, this 28th day of September, 1994:

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