

# straight talk about the future of wireless microphones

Facing the challenges of the 2009 RF Spectrum Reallocation



October 21, 2008

## An Explanation and Current Developments

Many questions have surfaced in recent weeks over the actions of the Federal Communications Commission (FCC) regarding digital television, spectrum re-allocation, and wireless microphone technology. These actions have an impact on the current professional wireless microphones. The following information is published in order to reduce misunderstanding about these issues.

### How is the TV spectrum being reallocated?

The U.S. is in transition from conventional analog TV to digital TV. This is scheduled to be completed on February 17, 2009. At this same time, the reassignment of TV channels 52-69 (698 – 806 MHz) will be completed. This band will partially be used for emergency communications in channels 63, 64, 68, and 69. The rights to use the majority of the remaining channels were auctioned to AT&T, Verizon, and Qualcomm to provide what is being termed as advanced wireless services (AWS). This raised billions of dollars for the federal government and was therefore called the digital dividend. This will affect wireless microphones operating between 698-806 MHz (generically called the 700 MHz band), such as our evolution wireless C range systems.

### Is this the White Space issue I've been hearing about?

No. The White Space debate is separate and distinct from the digital dividend.

### Will my C range evolution wireless system operate after February 2009?

Technically systems will still work. However, wireless mics will be prohibited to operate between 698 – 806 MHz in the near future. This restriction could go into effect as early as February 17, 2009. It is likely the FCC will make an announcement after their meeting scheduled on November 4th, 2008.

### What is the White Space debate?

The FCC is considering to allow a new class of unlicensed consumer electronic products, known as white space devices (WSD), to operate in locally unused UHF TV channels 21-51. If enacted, these new devices would also affect wireless mic users.

The debate centers on how current licensed devices (wireless mics are considered to be licensed devices by the FCC) will be protected from these new unlicensed white space devices (WSD). The FCC has acknowledged the need to prevent interference from white space devices to digital television signals and wireless microphones. The FCC recently conducted tests on WSD prototypes and published a report in mid October. A link to this report is referenced below. Once again, we expect further FCC action after their meeting on November 4th.

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## What has Sennheiser been doing regarding the White Space debate?

Sennheiser has been directly communicating with the FCC and legislators making them aware that the term “white space” is a misnomer since broadcasters, film producers, and professional entertainers have been using licensed devices, such as wireless microphones and monitoring systems, in this spectrum for years. Therefore major news, political, sports and entertainment events would not be able to operate reliably if the spectrum was randomly flooded by new unlicensed devices. To demonstrate this point, Sennheiser participated in the FCC field tests of WSD prototypes.

Sennheiser has also been deeply involved in helping to shape response to the FCC through the Professional Audio Manufacturers Association, the Sports Video Group, and the Microphone Interests Coalition.

## What about the future?

It is certain that the amount of spectrum available for wireless microphone use is shrinking. The 700MHz range will no longer be available for use for wireless mics. The remaining usable UHF spectrum may become smaller, or it may be shared with new devices. No matter what happens, Sennheiser will continue to support wireless microphone use with the most flexible products and service available. Sennheiser is continually developing unique ways to face new challenges with the same reliability that has always characterized our products.

## Explanation of Recent FCC Activity

There have been two recent communications from the FCC that have caused heightened anxiety:

### **Notice of Proposed Rule Making banning wireless mics from the 700 MHz band**

This NPRM can be read in its entirety at:

[http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-08-188A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-188A1.pdf)

[http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-284758A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-284758A1.pdf)

Sennheiser had predicted this action. That’s why we advised our customers back in early 2007 that the FCC was likely to impose restrictions on operating wireless mics between 698 MHz and 806 MHz. We therefore eliminated systems operating in this range from our regular assortment and made them available only based on a special order.

Sennheiser submitted a detailed response to this proposal on Oct 3rd and again on Monday, Oct. 20th. We are lobbying hard for a measured migration out of the 700 MHz band that includes a grace period that would allow existing users to continue to operate in this band on a non-interference basis. The full comment to the FCC is posted on the following webpage:

[www.sennheiserusa.com/spectrumreallocation](http://www.sennheiserusa.com/spectrumreallocation)



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## The White Space Technical Report

The FCC executive summary can be found at:

[http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-08-2243A2.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-2243A2.pdf)

This report relates to spectrum sensing capabilities of proposed white space devices (WSD). Other than the FCC stating that "...we believe... the 'proof of concept' has been met," there is nothing new in this report.

- 1) WSD devices would still be required to detect and avoid wireless mics
- 2) Fixed WSD are being considered ahead of the more problematic portable units
- 3) More development is required on WSDs to meet the performance standards that have been set

Furthermore, there is also a proposal being considered that would dedicate at least two TV channels in every market for wireless microphone use. Major events, such as sports, would have additional channels reserved.

The bottom line is this: wireless mics will continue to be used throughout our nation. The FCC has scheduled a discussion and may vote on these issues on November 4th. We will distribute the results of this vote as well as a detailed analysis of what this means to wireless mic users. In the meantime, feel free to contact me with further questions. Thank you.

A handwritten signature in black ink that reads "Joe Ciaudelli". The signature is written in a cursive style and is positioned to the left of the printed name.

Joe Ciaudelli  
860-434-9190 Ext. 508  
SENNHEISER ELECTRONIC CORP

