



SHURE Incorporated
5800 West Touhy Avenue
Niles, IL 60714-4608 • U.S.A

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THE U.S. "WHITE SPACES" PROPOSAL AND THE IMPACT TO PROFESSIONAL AUDIO

WHAT'S THE PROBLEM?

Washington D.C. lawmakers are taking steps that could threaten quality wireless audio production for live events. The U.S. Senate and the Federal Communications Commission are poised to change current regulations and allow nationwide deployment of new unlicensed devices (such as PDAs, cordless phones, wireless laptops and Wireless Access Points) that will operate in the same radio frequency spectrum as professional wireless microphone systems and other audio equipment. These devices pose the risk of widespread radio interference to wireless microphones and audio systems, which would significantly increase the challenge of delivering the high-quality audio experience that listening and viewing audiences demand and have come to expect.

WHO IS AFFECTED?

Television, music, theater, movie, sports, worship and news productions may be impacted significantly. Today, professional wireless microphone systems and related audio gear, including personal monitors, wireless intercoms, wireless video assist devices (WVADs) and wireless cueing (IFBs), are extensively used in the production of program content by all of these industries. Virtually all theatrical shows, musical artists and other live entertainers, news reporters, stage and production crews, sports teams -- and of course, the listening and viewing public -- count on absolutely clear, real-time audio transmissions. Potential interference would cause a disruption to wireless audio signals and severely degrade the overall quality of the content. This outcome would be highly problematic for the creators of high-quality, real-time productions and programming in the United States.

WHY ARE POLICYMAKERS DOING THIS?

Some policymakers believe that vacant radio frequency spectrum exists between the TV channels and that these "white spaces" should be put to use for new devices that could promote broadband services, especially in rural areas. Many believe that any potential interference to existing users can be addressed by "smart radio" technologies that will automatically know to stay away from occupied frequencies.

But the white spaces in between TV channels are not vacant at all. Pursuant to current FCC rules, **professional wireless microphone and related audio systems operate on these frequencies.** In addition, the "smart radio" technology that is supposed to prevent interference has not yet been proven effective. If Congress and the FCC are not careful, mass deployment of new devices on these frequencies would compromise the performance of wireless audio systems that serve the entire entertainment, theater, sports and news industries.

WHAT IS THE CURRENT STATUS?

In the U.S. Senate: Senator Sununu (R-NH) and Senator Kerry (D-MA) have each introduced bills that would allow new fixed and personal/portable devices to operate on the same frequencies currently used by wireless microphones within the calendar year. These new devices stand to cause harmful interference to wireless microphones unless meaningful protections are required and proven. While each bill requires the new devices to protect television stations from interference, currently wireless microphones are not specifically addressed. In



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addition, this aggressive timeline leaves insufficient time to develop and test reliable interference protection for deployment in new unlicensed devices.

At the FCC: Under pressure from Congress and manufacturers eager to market new unlicensed wireless devices, the FCC has proposed its timeline to establish rules for these devices to operate in the "unused" TV broadcast spectrum. While the FCC is conscious of professional audio equipment operating in spectrum between TV channels, they believe this use is relatively infrequent and that smart radio technology can solve interference problems. The FCC timeline has proposed that new **unlicensed devices may begin operation in February 2009**, under technical rules to be developed that protect existing services from interference. This date coincides with the completion of the transition to all digital TV broadcasting in the United States and the shutoff of analog TV, which will create more available spectrum. The FCC has stated that its schedule will allow for proper interference testing and evaluation of new technologies, however manufacturers in both the professional audio and consumer electronics industries have raised concerns regarding the adequacy of this time frame.

WHAT CAN THE PROFESSIONAL AUDIO INDUSTRY DO?

The FCC is in the process of developing the technical and operational rules that will regulate the use of new unlicensed wireless devices allowed to operate in white spaces. While the FCC is striving to balance the need to protect existing services (including wireless microphones) against its commitment to open the spectrum to new devices and uses, the technical engineering issues are complex and will take time to resolve.

Through formal comments to the FCC, several parties, including NAMM, NSCA, the Grand Ole Opry, Guitar Center, the Recording Academy and others that rely on successful operation of wireless microphones have urged the Commission to proceed cautiously. Some have requested that the FCC should only permit new TV band devices to be used in stationary systems that audio engineers can identify and avoid in the frequency coordination and planning process that goes on for many events. In addition, commenters have urged the FCC to adopt specific technical and operational rules that would prevent interference and some have requested that unlicensed device manufacturers be required to demonstrate through laboratory and field testing that new devices will not adversely affect wireless microphone and audio systems.

The FCC and U.S. policymakers have welcomed education on the importance of wireless professional audio systems to our nation's industries and the subsequent need for protection. **If high-quality, real-time wireless audio is important to your productions, it is critical that your voice is heard by the FCC and on Capitol Hill.**

To aid in this education, Shure has prepared the following instructions for filing comments with the FCC:

FCC Electronic Comment Filing Instructions

Comments regarding the negative impact that proposed unlicensed devices will have on wireless microphones already operating in the TV broadcast band must be filed with the Federal Communications Commission ("FCC") through the Electronic Comment Filing System ("ECFS"). ECFS can be accessed at <http://www.fcc.gov/cgb/ecfs/>.

Step 1: Convert your comments into an Adobe PDF or MSWord document and save the document on your local drive.

Step 2: Access the ECFS website at <http://www.fcc.gov/cgb/ecfs/> (please note that the website is optimized for Internet Explorer).



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Step 3: On the right side of your browser's screen you should see several menus. The top menu is titled "ECFS Main Links". The second hyperlink under the "ECFS Main Links Menu" is titled "Submit a Filing." Please click on this hyperlink.

Step 4: You should now see a webpage titled "Electronic Comment File Submission." This webpage contains tables that run down the center of the screen.

- The first table is titled "Cover Sheet" and requires basic biographical information. ***** In the "Cover Sheet" table under Item 1 "Proceeding" you must input the number 04-186.** Your comments will not be entered properly if the number "**04-186**" is not input in the first field. Please proceed to input the remainder of your organization's biographical information in the required fields within this table.
- The second table is titled "Send Comment Files to FCC (Attachments)". This table enables you to upload your MSWord® (.doc) or Adobe Acrobat® (.pdf) comments to the FCC. Within the table select the "browse" button to scan your local drive for your comments and then identify what type of file you are uploading. When you have completed these two steps, hit the "Send Attached File to FCC" button immediately below the table.
- Ignore the third table.

Step 5: You should now see a confirmation page asking if you want to complete the process. Please confirm that you want to upload your comments to the FCC. A final webpage that contains a confirmation number will now appear.