



January 15, 2015

Chairman Tom Wheeler  
Commissioner Mignon Clyburn  
Commissioner Jessica Rosenworcel  
Commissioner Ajit Pai  
Commissioner Michael O'Rielly  
c/o Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, D.C. 20554

Re: Comments in ET Docket No. 14-165 and GN Docket Nos. 12-268 and 14-166 Via Electronic Filing

Dear Chairman Wheeler, Commissioner Clyburn, Commissioner Rosenworcel, Commissioner Pai, Commissioner O'Rielly and Ms. Dortch,

On behalf of Denver Center for the Performing Arts Theatre Company, located in Denver, CO, that provides approximately 430 performances a year to 150,000 audience members and education programs to 50,000 students, I write with concern about protection for our wireless microphones and backstage communications devices.

I understand the Commission has ruled that performing arts entities that regularly use 50 or more wireless devices will be eligible to apply for a Part 74 license. I've also learned that the FCC is seeking Comment on a proposed rule that would prevent performing arts entities using fewer than 50 wireless devices from participating in the database. This would leave **most** organizations without any interference protection mechanism from the many TV Band Devices that may soon flood the market. Frequency coordination with other known wireless microphone users has become common practice, but there is no way to coordinate with TVBD's if you don't know about them.

Thousands of performances are held by professional performing arts organizations each year and the use of wireless microphones is both essential to producing high-quality performances and also mitigates against significant public safety concerns. Professional wireless capability, with successful interference protection, is essential to our sector.

The information that the FCC has requested follows:

- What type of wireless devices do you use?

**Microphones**

**In-ear monitors**

- How many units do you use in a typical presentation or performance? (A range is acceptable.)  
**0 to 44**
- How frequently do you offer presentations that use wireless devices?  
**430 performances per year.**
- What bands and channels do you use?  
**Wireless microphones:**  
**9 units VHF (channels 2-13, 54 MHz to 216 MHz)**  
**60 units Low UHF (channels 14-36, 470 to 608 MHz)**  
**17 units High UHF (channels 38-51, the 600 MHz band, 614 MHz to 698 MHz)**  
**In-Ear Monitor systems:**  
**3 units High UHF**  
**2 units 906.624 to 925.056 MHz**
- Are your wireless devices able to tune to more than one frequency?  
**9 VHF devices cannot.**  
**80 UHF devices can.**  
**2 900 MHz devices can.**
- How wide is their tuning ability?  
**Of 77 UHF wireless microphones:**  
**7 transmitters 470.1 to 495.6 MHz**  
**2 transmitters 506 to 530 MHz**  
**30 transmitters 518 to 578 MHz**  
**7 transmitters 537.6 to 563.1 MHz**  
**6 transmitters 563.2 to 588.7 MHz**  
**8 transmitters 584 to 608 MHz**  
**1 transmitter 614.4 to 639.9 MHz**  
**8 transmitters 632 to 644 MHz**  
**8 transmitters 674 to 698 MHz**  
  
**Of 3 UHF In-Ear monitor systems:**  
**2 transmitters 626.2 to 649 MHz**  
**1 transmitter uses two frequencies only: 655.25 and 656.5 MHz**  
  
**Two 900 MHz In-Ear monitor transmitters: 906.624 to 925.056 MHz**
- Which of your devices are outside the TV bands? What frequencies do they use?  
**2 In-Ear monitor systems: 906.624 to 925.056 MHz**
- Which of your wireless devices are analog and which are digital?  
**All use analog FM transmission, although 20 transmit a digital signal.**
- Do you own or rent your wireless equipment?  
**We own the equipment listed above, but occasionally rent additional equipment.**
- For equipment that you own, what is its reasonable life expectancy?  
**20 years.**

- How did you handle the move out of the 700 MHz band?  
**16 channels were modified to lower frequencies and we purchased 12 channels of new replacement equipment.**
- How much did it cost?  
**Modification of equipment to lower frequencies: \$4,000.  
Purchase of new replacement equipment: \$57,000.**
- How long did it take for you to retune or replace your 700 MHz devices?  
**2 years.**
- What would persuade you to move out of the TV band?  
**Equal or better technical performance, and compensation for the expense.**

I appreciate that the Commission has sought Public Comment on these very important issues. Professional performing arts organizations should all have some sort of interference protection. While some entities will be protected by access to the geo-location database, many professional performing arts organizations will not under this plan. Further, I would request that the Commission consider the burden already borne by the performing arts community in vacating the 700 MHz band. I am concerned about the cost of once again replacing my theatre's sound equipment.

Performing arts organizations provide demonstrable service to the public in improving quality of life; preserving our cultural heritage; and in providing education, enlightenment, entertainment. They also contribute to local economies in every community across this country. I respectfully request that the Commission maintain access to interference protection and establish a mechanism to reimburse performing arts organizations for the cost of new equipment.

Sincerely,



Charles Varin  
Managing Director