

EXHIBIT 10

a)

The class of transmitters to be used under this proposed experimental license includes those intended for wireless microphones and others intended for cue systems. Wireless microphones are used in radio and television studio and remote pickup applications and provide an alternate source of audio signals for program material without the need for microphone cables. The cue systems are used for coordination of studio and remote staff such as cameramen, mixers and support personnel. Both applications are for local area use and transmission is usually for less than 100 yards. Transmitter power levels of 0.05 watts at VHF frequency bands and 0.25 watts at UHF bands precludes that the transmitters cause interference to anything but nearby-low-power systems. Every effort will be taken to avoid even this low-likelihood of interference.

Wireless microphones are either hand held with a very small antenna, or worn on the body with a quarter wave antenna placed in close proximity to the body. These inefficient antennas further limit the radiated energy. Cue systems will use the same type of transmitter and antenna for mobile use but the fixed transmitter may make use of a quarter wave antenna of the whip variety.

The nature of this class of service is to require operation at specific locations anywhere in the contiguous states and the two states outside of the continental U.S. Thus the application requests this unusually wide area of potential operation.

New requirements arise regularly. Some examples of new requirements are:

- Political conventions.
- Sporting events.
- Olympic games.
- Fairs.
- Festivals.
- Concerts.
- and many more.

The proposed program of research and experimentation includes simulating the expected radio situation and verifying that adequate program quality can be obtained under all circumstances. This program includes placement of receivers, antennas and electrical noise sources. It includes the measurement of transmitter intermodulation that generates interfering signals when multiple transmitters are used. Because of the high probability of interference from other sources and the very low power of the system transmitters, each situation is unique. There is no substitute for full evaluation prior to the actual pickup of program material. This is the driving requirement for this request for an experimental license. We pledge to comply with Part 74 rules during each use of the license.

EXHIBIT 10

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b)

The planned objectives include:

1. Determining the maximum distance range of the transmitter/receiver system under varying conditions.
2. Determining antenna placement for maximum signal-to-noise results.
3. Evaluating and measuring transmitter intermodulation potential.
4. Determining the loss of signal level in typical field situations versus battery life.

c)

The use of wireless microphone transmitters combines very low radiated power necessitated by battery operation with the need for high-quality audio. These conflicting factors lead to the need for guidance suggestions for the broadcasters. This program of investigation will lead to a list of application notes to help all users of wireless microphones and cue systems. Such material is not readily available at the present time.

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