

RF Basics 06 - What is Frequency Coordination

- *3D Tetris for RF signals.*

You may have heard the phrase “frequency coordination” when reading and researching all things RF. Frequency Coordination is the process by which RF frequencies required for use by the user (that’s probably you) are made to fit into the larger RF environment created by TV stations in your location, any existing RF users nearby and any other constraints placed on the available RF spectrum e.g. at The Superbowl.

Almost all wireless devices, either microphone or IEM, have the ability to change the individual frequency that they broadcast on. Obviously, if the frequency on the T is changed the frequency on the R has to be changed to match otherwise nothing will be received. The vast majority of wireless devices offer functions that allow the device to scan the local RF environment and suggest the most open frequency for use. This scanning is a form of coordination but only if conducted in the following way.

Let’s say you want to have 4 wireless mics working together. The first unit is switched on and a scan initiated. Once the scan has finished the system recommends a usable frequency and the RX and TX parts are changed to match. The system works and all is well with the world. This first unit should be left on while a scan is performed on the second unit. If the first unit is turned off, the second unit will find the most usable frequency, which is likely to be the same frequency unit one found. Turn both units on and battle ensues to use the frequency. This does not sound good. Leaving each unit turned on while performing a scan with subsequent units ensures that the scan always locates the next available best frequency, not just the best frequency.

