PLANTRONICS
SOUND INNOVATION™

Understanding the differences between **900MHz and 2.4GHz wireless headset systems**

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Understanding the Differences Between 900MHz and 2.4GHz Wireless Headset Systems

OVERVIEW

When it comes to deciding on the right communications products for business, the key to finding the ideal solution lies not in "speeds and feeds," but rather in finding the device best suited to fit a company's needs. In telephony, the best device is the one that most cost effectively and efficiently meets those needs.

Increasingly, companies are turning to wireless headset systems to help their employees go completely hands free, and to add new freedom to the way they currently conduct their business. The mobility afforded by wireless headsets and the ability to multi-task contribute to a much more productive workforce.

Trying to decide which wireless headset system to buy shouldn't come down to 900MHz headsets or 2.4GHz headsets based on frequency alone, because neither frequency is necessarily better than the other. Each headset and its corresponding frequency are different, and the overall quality of a wireless product is not directly related to frequency.

Companies should decide which wireless headset system to purchase based on what they need it to accomplish for their business. The key to being able to make this educated choice lies in understanding the importance of features such as range, audio quality, talk time, comfort, security and their associated benefits.

FREQUENCY

When we talk about 900MHz devices and 2.4GHz devices, we are talking about the signal in which the device transmits—a signal that is made up of frequency and a modulation.

Frequency represents the number of times, or cycles, per second that a wave cycle occurs. Higher frequencies have more cycles in a given time period and can affect range, talk time and user density.

Modulation is the method of transmission, or the addition of information to a signal carrier, and is independent of the frequency.

Here are some basic points on 900MHz and 2.4GHz:

- In wireless products, the length of an antenna is inversely proportional to the frequency; the lower the frequency, the longer is the antenna, and the higher the frequency, the shorter is the antenna. Typically, the longer the antenna, the more energy efficient the device.

- Lower frequency wireless devices can have better range and provide better obstacle penetration than higher frequency devices.

- Lower frequency devices can have longer talk times and require less power than higher frequency devices.

- All other things being equal, 2.4GHz devices work in a larger frequency band and they can offer more channels and greater potential density than lower frequency devices.

- 2.4GHz devices operate on a frequency band that is a worldwide standard, which is increasingly becoming a business standard. Examples of wireless technologies utilizing this frequency are Bluetooth™ and 802.11b (WiFi).

DENSITY

Another important aspect to consider in helping to make the right wireless headset system decision is user density. User density refers to how many wireless units can be used in one space before interference begins between those units. This can be a critical issue in environments where a large number of employees use wireless units within close proximity of each other.

Higher frequency devices are becoming increasingly popular in larger, enterprise-level businesses—a popularity that could potentially make wireless headset solutions using the same frequency a liability. For example, 802.11b (WiFi) is the standard for wireless Ethernet and is included in a growing number of laptops and personal digital assistants (PDAs). Bluetooth® is the specification for a small-form factor, low-cost radio solution that provides wireless connectivity between computers, mobile phones, headsets, PDAs and other portable handheld devices. Both 802.11b and Bluetooth devices operate at the 2.4GHz frequency. As these devices continue to multiply in the work place, 900MHz wireless headsets could have less potential interference with these other technology products than do 2.4GHz wireless headsets.

IN SUMMARY:

- A mix of different frequency devices has less potential to cause interference than a quantity of devices using one particular frequency.

- Density is also dependent on the environment, with each situation being unique. A building's layout and employee distribution within a defined space is a key determining factor.

WHAT PLANTRONICS OFFERS

Frequency is not a feature or user benefit. It is simply a technology, which is used in combination with other technologies to create a solution for a company's needs. For example, frequency does not affect features such as basic audio quality, security or authentication. Nor does it affect talk/standby time and overall product usability. Comfort, reliability and durability are also not dependent on frequency. All of these features are of importance to the customer, but frequency, as an underlying technology does not play a central role in determining if these features meet the company's needs.

Ultimately, what matters most in helping to guide companies toward making the right decision concerning which wireless headset to purchase, is remembering what the company really needs. In a typical office environment, a quality wireless hands-free communication product focuses on four basic needs:

- The ability to be mobile and multitask
- Quality audio
- Secure conversations
- Headset comfort

While keeping this in mind, consider Plantronics and its new **CS50 Wireless Office Headset System.** When talking about overall quality of a wireless headset solution, consider that a quality wireless office headset solution is dependent on many factors, such as acoustic design, human factors, system engineering, electrical and software design.

In addition to introducing the first lightweight communications headset in 1962, Plantronics is today the world's leading designer, manufacturer and marketer of lightweight communications headset products. The company's new CS50 Wireless Office Headset System is the latest quality addition to this legacy.

With its use of digital 900MHz wireless technology, the CS50 Wireless Office Headset System gives customers wireless hands-free communications, the security of digital encryption (64-bit DECT) and the ability to roam up to 300 feet—all in a comfortable headset design that meets the needs of most companies. And depending on what the company needs, the CS50 Wireless Office Headset System may indeed be the best device—by offering the most cost effective and efficient solution to the company's business challenges, regardless of the technology.

Sound innovation for missions to the moon. And for everyday life on this planet, too.

In 1969, a Plantronics headset carried the historic first words from the moon: "That's one small step for man, one giant leap for mankind." Today, we're the headset of choice in mission-critical applications such as air traffic control and 911 dispatch. This history of proven sound innovation is the basis for every product we build—whether it's for work, for home or on the go.