Cutting the Cord

The Manager’s Guide to Wireless Voice in the Contact Center
The move to wireless headsets entails little technical impact on contact center managers and agents.

Digital Enhanced Cordless Telecommunications (DECT™) strikes the optimal balance among density, signal strength, roaming range and security in the contact center.

Beyond technical considerations, successful managers also weigh their own practices, logistics and workplace culture to evaluate the contact center roles that will most benefit from wireless headsets.
OVERVIEW

How do you figure out whether wireless headsets would be a good fit for your contact center?

As we described in Part One of this series, Discover, the mobility provided by wireless headsets in the contact center is a competitive advantage in customer service. But, like most strong competitive advantages, it involves new technology and new terms. Density, roaming range, compatibility, security, ergonomics... Is this yet another list of configuration issues for contact center managers to learn and hardware to maintain?

Not at all!

Consider the following:

• Your building is a given.
• The maturity of wireless headset technology is a given.
• The benefits of motivation and productivity with wireless headsets are a given.
• Even the culture in your contact center is a given.

It turns out that, when considering the technical dimension of wireless headsets, the biggest questions are:

• What is the maximum number of headsets you can operate in your contact center while avoiding interference?
• Which of your contact center personnel will benefit most from wireless headsets?

This paper takes readers from discovery to active consideration of wireless headsets. Contact center and helpdesk leaders can use it to become conversant in the technical, practical and cultural aspects of adopting wireless headsets and to examine the fit with their own organizations.

Are Wireless Headsets Right for My Contact Center?

In evaluating wireless voice, managers should consider headset technologies and practices in their own individually unique operations.
HOW TO BE A SAVVY BUYER

Several technical and ergonomic terms stand out when introducing wireless headsets to a contact center.

**Density** When multiple wireless headsets operate near one another, they share radio spectrum. It is important to understand how to deploy the maximum practical number of wireless headsets while avoiding interference. The main factor — density — defines the number of users who can talk on wireless links simultaneously, and depends on the wireless headset technology in use.

Digital Enhanced Cordless Telecommunications (DECT) headsets represent the enterprise standard in voice communication. A dedicated frequency allocation, smart protocol characteristics and the ability to actively avoid interference from other wireless devices enable DECT headsets to provide clear voice communications (corded-quality audio) securely in high-density environments.

Each DECT headset-base pair continuously monitors the channels and maintains a map of channel versus signal strength. When the headset encounters interference, it consults the channel map and changes to the best available channel. This aperiodic adaptive frequency hopping lets the system respond to changing conditions and eliminate interference before it impacts audio quality. The result is clear, uninterrupted voice communication.

**Roaming range** The roaming range is the maximum distance from base at which a headset can still carry a high-quality call. In a simple system with few users, roaming range is primarily a function of the strength of the radio transmitter and the effects of objects that block the transmitted signal.

Manufacturers commonly cite the unobstructed, outdoor range of up to 350 feet (approximately 110 meters) for a DECT wireless headset system, but walls, furniture and people typically attenuate the signal and can reduce the roaming range.
Adaptive Power improves density  Advanced wireless systems may use an Adaptive Power technique. With this approach the base and headset keep their transmission energy levels down to that required for clear communication.

If the agent is near the base, then the base puts out less transmission power. But as the agent steps farther away, the base increases power up to the maximum allowed under the DECT standard. This minimizes unnecessary competition among systems, improves density and maximizes battery life.

Coexistence with other wireless devices  Wireless headsets using DECT do not need to contend with other transmitting devices, because they operate on dedicated radio band (1880 MHz–1900 MHz in Europe, 1920 MHz–1930 MHz in the U.S. and Canada). DECT wireless headsets do not interfere with or receive interference from WiFi networks, wireless security systems, mobile phones, remote controls or other wireless equipment operating in adjacent frequency ranges (see Figure 2). Also, because DECT maintains a channel map, DECT headsets are less prone to competition with other headsets, even when density is high.

Figure 1 - Radio spectrum allocations, 500 – 3000 MHz
Building and environment

No two offices are alike. Some utilize an open plan, while others are divided by meeting rooms, walls and pillars. Building layout and materials affect how far wireless headset signals will reach, which influences roaming range. Concrete and metal objects inhibit wireless signals; this reduces the potential for interference but limits roaming range. On the other hand, a central atrium or large windows allow signals to travel farther; this increases range but can increase density issues.

Security

Older wireless systems using analog modulation are subject to eavesdropping by receivers tuned to the right frequency. DECT incorporates security technologies between headset and base to block eavesdropping. Digital keys limit access to authorized devices, and 64-bit encryption algorithms encode speech. The casual eavesdropper listening to the radio channel hears only a buzzing sound, rather than voices, because the transmission is digitally coded and encrypted.

Furthermore, DECT changes the frequency and/or timing of transmissions in response to device contention. The timing and destination of the hops are unpredictable, adding a layer of security to the transmission.

Because the headset is paired to the base at the time of manufacture, contact center agents enjoy these security features right out of the box.

Ergonomics and comfort

When agents are connected to their phones for long stretches of the workday, the headset becomes as much a part of the work environment as the chair, keyboard or monitor. Organizations that invest in their employees’ productivity and physical comfort take into account their need to remain connected to callers while consulting resources around the contact center or to have a stretch to stay fresh and healthy without interrupting their productivity.

Unified Communication

If and as the organization moves toward Unified Communications (UC) platforms for greater collaboration, audio devices need to fit with these plans. Because wireless headsets change the way agents communicate, it is essential that they support the eventual mix of traditional desk phones, PC telephony and even mobile devices. Future-proofing is an important investment consideration.
**Why Not Bluetooth?**

From the perspective of the contact center manager, DECT has several advantages over Bluetooth, another well-known and pervasive technology for wireless headsets.

- **Conflicting DECT devices** are unlikely to be present in a contact center environment. Conversely, Bluetooth-enabled devices (notebook computers, mobile phones, earpieces, wireless keyboards and mice) carrying voice and data abound in corporate environments and contribute to density problems.

- **Whereas Bluetooth’s effective reach** in an unobstructed, outdoor setting ends at about 30 feet (9 meters), DECT potentially supports clear voice communication over approximately 350 feet (110 meters).

- **DECT is used exclusively for voice,** not data. Its carriers are wider than Bluetooth carriers (1.728 MHz vs. 1.0 MHz), resulting in rich, natural-sounding voice and multimedia transmission.

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**WIRELESS MAY BE THE RIGHT CHOICE IF...**

Managers need to examine their own practices, logistics, culture and employee preferences to understand whether, how and where to provide personnel with wireless headsets. The technology finds the greatest acceptance and highest success rates where one or more of these conditions apply:

- Supervisors, trainers, coaches and managers need to float among agents and trainees, whether to stay connected to their own calls or to join agent calls.

- Agents’ procedures include leaving the workstation to confer with experts, retrieve records, examine samples or test equipment.

- Agents are connected all day long, multiple days per week.

- Contact center agents deal with a rich, unpredictable set of questions and a sophisticated knowledgebase.

- The organization observes agents’ preferences between corded and wireless headsets: since not all agents may need or want to work wirelessly.

- Desktop clutter needs to be minimized.

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**CONCLUSION**

Wireless headsets represent a mature technology with few variables for contact center managers to work out. Savvy buyers of this technology become conversant in DECT concepts, consider density in their physical location and prioritize the need for mobility among their organization’s agents.

After undertaking their own research and evaluation, these managers can begin to plan wireless headset adoption in their own contact centers, and can confidently consult experts in the field for additional guidance.
PAPERS IN THIS SERIES

Part One: Discover
Use cases, basics and benefits of wireless headsets

Part Two: Consider
Technical, practical and cultural considerations

Part Three: Decide (Coming soon)
Making the business case for going wireless

For more in this series, visit our Contact Center resources on Plantronics.com

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