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# Bluetooth Basics

Tech Tip 10 - Jason Kohrs



Bluetooth technology is nothing new, but in many respects it still seems to be more of a buzz word rather than a well understood, commonly accepted technology. You see advertisements for Bluetooth enabled cell phones, PDAs, and laptops, and a search of the [Computer Geeks](#) website shows all sorts of different devices taking advantage of this wireless standard. But, what is it?

## History

Before getting into the technology, the word Bluetooth is intriguing all on its own, and deserves a look. The term is far less high tech than you might imagine, and finds its roots in European history. The King of Denmark from 940 to 981 was renowned for his ability to help people communicate, his name (in English)... Harald Bluetooth. Perhaps a bit obscure, but the reference is appropriate for a wireless communications standard.

Another item worth investigating is the Bluetooth logo, shown above. Based on characters from the runic alphabet (used in ancient Denmark), it was chosen as it appears to be the combination of the English letter B and an asterisk.

## Capabilities

The FAQ on the [Bluetooth.org](#) website offers a basic definition: "Bluetooth wireless technology is a worldwide specification for a small-form factor, low-cost radio solution that provides links between mobile computers, mobile phones, other portable handheld devices, and connectivity to the Internet."

Just like 802.11 b/g wireless networking systems and many cordless telephones, Bluetooth devices operate on 2.4 GHz radio signals. That band seems to be getting a bit crowded, and interference between devices may be difficult to avoid. Telephones are now being offered on the 5.8 GHz band to help remedy this, and Bluetooth has taken its own steps to reduce interference and improve transmission quality. Version 1.1 of the Bluetooth standard greatly reduces interference issues, but requires completely different hardware from the original 1.0C standard, thus eliminating any chance of backwards compatibility.



The typical specifications of Bluetooth indicate a maximum transfer rate of 723 kbps and a range of 20-100 meters (65 to 328 feet - depending on the class of the device). This speed is a fraction of that offered by 802.11 b

or g wireless standards, so it is obvious that Bluetooth doesn't pose a threat to replace your wireless network. Although it is very similar to 802.11 in many ways, Bluetooth was never intended to be a networking standard, but does have many practical applications.

### Practical Applications

Browsing the [Computer Geeks](#) website shows a variety of products that take advantage of Bluetooth's capabilities, from laptops and PDAs, to headphones and input devices, and even wireless printer adapters.



[Laptops, such as the Toshiba Tecra 9000](#), include an onboard Bluetooth adapter to allow the system to connect to any Bluetooth device right out of the box. For laptop or desktop systems that do not have an adapter built in, there are USB

Bluetooth adapters, such as the [Belkin F8T001](#).

[Bluetooth enabled PDAs, such as the HP iPAQ hx4700](#), allow for convenient wireless synchronization and data transfer.

Headphones can take advantage of Bluetooth for two purposes... audio playback and mobile phone communications. Using something like the [Logitech Mobile Headset](#) with a Bluetooth enabled mobile phone allows anyone to go hands free, as well as wire free.

Logitech, and other manufacturers, also produce input devices that eliminate wires thanks to Bluetooth. You can add a Bluetooth mouse to your system, such as the Logitech MX900, or both a mouse and keyboard using something like the [Logitech diNovo Media Desktop](#). One advan-



tage that Bluetooth wireless keyboard/mouse combinations have over the standard RF wireless keyboard/mouse combinations is range. Where most standard RF keyboard/mouse combinations have a range up to 6 feet; a Bluetooth keyboard/mouse combination will usually have a range of up to 30 feet.

The [HP JetDirect BT1300 Bluetooth printer adapter](#) makes sharing a printer extremely convenient by eliminating the need for any wires or special configurations on a typical network. Printing to any compatible HP printer from a PC, PDA or mobile phone can now be done easily from anywhere in the office.



### Final Words

At this point the popularity of Bluetooth might not be as large as some proponents would have hoped, but many devices are available for those interested. The cost and competition from other standards have hindered the widespread acceptance, but Bluetooth does offer a viable solution to many devices that might not have wireless connectivity without it.

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