

# SETTING UP A HOME OR OFFICE WIRELESS SOUND SYSTEM

If you've used any sort of wireless device -- telephone, laptop, PDA, or even a simple remote control -- you know how convenient it can be. You're not tethered to ... well, to anything. And you're free to move around while doing your work.

One area that's ripe for wireless is a home or office sound system.

Once a dream, it's now relatively cheap and easy to set up such a system. Imagine being able to listen to your digital music without wires -- you've probably got most of the components already. For a couple of hundred dollars or less, you can have a great wireless sound system.

... You can enjoy your music anywhere in your home or office without worrying about stringing (and tripping over) a knot of unsightly cables.

## Why Go Wireless?

Obviously, the main advantage to going wireless is to cut down on all of those pesky cables that have been the bane of audiophiles for decades. With wireless, you can place your speakers just about anywhere in your home without being limited to the length of wire that connects back to your audio system.

If you're like many people these days, you've probably got more music in a digital format like MP3 than you have on CD. Maybe you've ripped your CDs and/or downloaded music from the iTunes Store or other popular online music vendors. It's easier to play these files directly from your computer instead of



burning them on to a CD and having to fumble with those disks.

And let's face it: no matter how good your PC speakers are, they're no match for a decent set of stereo speakers. Piping your music to speakers, even those in another room, will only enhance your listening pleasure.

## How It Works

A wireless sound system works sort of like radio. A transmitter is connected to a device -- usually a computer -- that stores and plays your music. A receiver, plugged into a stereo or a set of speakers, picks up the signal from the transmitter. There are two ways in which signals can be sent from the transmitter -- analog and digital.



Analog is similar to FM (Frequency Modulation) radio. The signal is strong and constant, but the frequency of the signal changes slightly based on the information being sent. If you still listen to terrestrial (as opposed to satellite) radio, you're probably familiar with FM. The quality of the signal is good and signal strength is decent, though it can be affected by barriers (like walls) in the way of the signal.

Digital, on the other hand, converts sounds to packets of electronic data. In the case of a wireless audio system, this data is sent over the air from a transmitter and the data is converted back to audio when it reaches the receiver. It's really the same principle as a wireless Internet connection.

Wireless devices, like the ones described in this Tech Tip, operate over a specific range of frequencies -- usually between 900 MHz to 2.4 GHz. This range of frequencies is used by most consumer wireless devices. That means a consistent level of signal quality, but it can also lead to interference from other devices. Luckily, the hardware used in setting up a wireless sound system enables you to select different frequencies to avoid or at least minimize interference.

## Ways to Go Wireless

There are a couple of ways you can go wireless. If you're an iPod user, you can turn your gadget into a music transmitter using the Wireless Music System for iPod by Logitech. This device clips to your iPod, turning it into a transmitter. You connect a small base station to your stereo or a set of powered speakers and you can use the iPod's controls you can shuffle through songs or play your favorite play lists.



You can also get FM transmitters for certain makes of MP3 player. The transmitter -- like iRiver AFT-100 or the Belkin TuneCast II -- plugs into your MP3 player and literally sends the music on the device to an FM receiver. That receiver could be a stereo or even a car radio. Essentially the transmitter turns your MP3 player into a short-range radio station. The range

of these devices is limited -- about ten to 30 feet. But over those distances, the signal is clear and has little or no interference.

Or, you can use a desktop computer (which is often called a media server) to store and broadcast your audio. You don't need an up-to-date, lightning fast system with the latest version of your operating system (although that does help), either. An older computer running Windows XP and with a decent amount of memory and a fair sized hard drive is usually more than enough. I know at least two



people who turned old eMachines desktops with 512 MB of memory and 80 GB hard disks into serviceable media servers. Using a software media player -- like Windows Media Player, iTunes, RealPlayer, or WinAmp -- you can create play lists or play all of your audio in bulk.



A popular way to turn a PC into a sound system is the Logitech Wireless

Music System. This device consists of two parts. The first is a small transmitter that you plug into a USB port on your computer. The second is a receiver that you connect to your stereo or a set of wireless speakers. Then, just fire up the media player on your computer and you're ready to go. The Linksys Wireless Media Center Extender not only does audio, but also video and Internet radio. The Extender looks like a DVD player with a small antenna at the back. You connect the Extender directly to your TV or stereo, and then install the software that interacts with the Extender on your PC. To use the Media Center Extender, your PC needs to be running Windows XP Media Center Edition and you'll need to have a wireless network up and running.



Apple has always had an edge over PCs in multimedia. If you have a recent Mac and a high-speed Internet connection, you can turn that Mac into a media server using an AirPort wireless base station. Just plug the AirPort base station into your stereo or your speakers, and let your Mac and the iTunes software do the rest. According to Apple, iTunes will automatically detect the base station and you can start playing your tunes immediately. However, at \$99, the AirPort base station isn't cheap, especially if you want to have your

audio piped to multiple locations in your home.

## **Speakers**

Getting good sound from a wireless system – or any audio system for that matter – is partly a matter of having a good audio source to work with and mainly a matter of having a decent set of speakers.

The great thing about a wireless sound system is that you don't necessarily need to buy a new set of speakers. If you have a stereo, then you can use the speakers that you already have. If course, if you can afford it, a new set of speakers can't hurt. The only problem with using stereo speakers is that you're still restricted by the speaker cables. Your sound source can be anywhere, but the position of the

speakers is limited to the length of cable connecting them to your stereo.



Wireless speakers, on the other hand, can free you of that limitation. You can (within reason) position the speakers anywhere you want in your house or even outside. Most are light enough that you can position them anywhere. With most wireless speakers, however, will need to be positioned near an electrical socket -- this will limit where you can position your speakers. There are battery-powered wireless speakers, but most of them only hold a charge for about four hours. As the batteries run down, so will the quality of the audio that's

coming out of them.

You can expect to pay several hundred dollars for a decent set of wireless speakers. Models from Panasonic, for example, can cost anywhere from \$200 to \$1,700 dollars. Ones from Acoustic Research or JBL will cost quite a bit more. But, as with anything else, you get what you pay for. The quality of the sound will be better with a slightly higher-end set of speakers. That said, you should really only buy what you can afford and if you can afford it.

You can usually find some pretty good bargains on eBay or at online retailers – Geeks.com, for example.

Of course, how you position your speakers in a room is almost as important as choosing the right speakers. How you position your speakers will depend on the size of the room and its layout. You can find some good advice on this topic [here](#) and [here](#).

## **A Few Caveats**

Remember that a wireless sound system has a limited range -- from around 30 feet to 100 feet, maybe a

bit more. This isn't a problem in the average home, but if you want to play music outside then you might experience a drop in the quality of the sound.

Speaking of putting your speakers outside, while it may seem like a good idea to have your favorite bit of music playing during a BBQ or garden party, remember that many speakers aren't meant for use outdoors. They could get damaged by the weather or careless guests. If you're using battery-powered speakers, remember that the life of the batteries is limited -- probably (hopefully!) shorter than the duration of your party.

On top of that, the sound that is sent to speakers might not arrive at the same moment, depending on how far the from your media center the speakers are set. In most cases, you might not notice any problems with the sound. Sometimes, though, you will definitely notice a small lag. If that happens, then you'll have to experiment with the placement of your speakers.

As mentioned earlier, most wireless devices operate in a similar range of frequencies. Some wireless speakers work in the range of 900 MHz. That's the frequency range used by many common household wireless devices like cordless telephones or baby monitors. You might encounter some interference from such devices in your home or even those used by a neighbor (depending on how close your nearest neighbor lives to you).

## **Conclusion**

For less than a couple of hundred dollars (more, if you want to splurge), you can put together a decent wireless sound system in your home or office. Installing and configuring the hardware and software doesn't take long and once that task is out of the way, you can enjoy your music anywhere in your home or office without worrying about stringing (and tripping over) a knot of unsightly cables.

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