

Facts You Should Know About Wireless Intercom Systems for Your Business

*How to Choose the Best Wireless Intercom System For Increased
Productivity Without Worry About Choosing the Wrong System.*

By:



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Summary

In this guide you'll find information about the different types of intercom systems you'll see while searching for a system. It discusses the frequencies used, types of wireless systems available, and the advantages and disadvantages of each type. After reading it you'll be able to better define what type of system will be best for your application.

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Introduction

As you scroll through the online search results for intercoms, no doubt you've seen a confusing array of choices for wireless intercoms. You are faced with decisions of whether to purchase wired or wireless; what type of wireless technology is best; video or voice only; full-featured or basic features only. You can even purchase systems that transmit and receive over your house or business power lines.

You're likely reading this because your business has a communication problem and you have the task of solving it. Also likely is that intercom systems are probably not your area of expertise and you don't have a lot of time to become an expert.

But the last thing you want to do is spend a bunch of money and waste time on a solution that won't solve your communication issue. People are no doubt counting on you to get this right. Their productivity depends on it and the last thing you want is to listen to complaints of coworkers about the system you choose.

In this guide we'll give you the facts you need to know before you go shopping for the right system for you. Finally you'll be able to stop the shouting and unnecessary walking to deliver messages that could be delivered instantly via an intercom system.

Wired or Wireless

There are three major benefits of a wireless intercom system over a traditional wired intercom. The first is that installation is much easier since no wires have to be run between intercom units. The second is that you can easily move the units any time. And the third is that you have mobility not provided with a wired system.

With a wireless intercom system, you can be up and running minutes after you take them out of the box and power them up.

But with that ease of installation and convenience also comes some risk. There is risk of interference from other wireless and electrical devices. Other wireless devices near the intercom

such as cordless telephones, wireless data networks, and remote audio speakers can interfere. Electrical devices such as motors can also cause noise on some systems.

There is also risk of other people hearing your conversations by picking up your conversation on a scanner, baby monitor, cordless phone, or a similar device on the same frequency. However, there are wireless intercoms that reduce or eliminate both of these risks.

Frequencies Used

The United States and Canada have several frequency ranges for wireless intercom systems and other wireless products. They are 49MHz, FM band (200KH - 270KHz), 900MHz, 2.4GHz, 5.8GHz, DECT, and in the U.S. only, the MURS (150 MHz). There are also Power Line Carrier units that communicate over house wiring that are referred to as wireless intercoms.

49MHz

The 49MHz frequency was used by early cordless telephones and is still used by baby monitors and other low-end wireless products. Its range is short and conversations are not secure. It is also the most likely frequency to pick up noise from electrical devices. There are no known wireless intercom systems that use this band.

FM band (200KH - 270KHz)

You will find intercom systems that use the FM frequency. They may work well for you and they may not. It depends on what other transmitting and electrical devices are nearby. They are also more prone to electrical interference. They are also not secure so anyone can listen to your conversations. If you look at the feedback on the Internet, a large percentage of those who purchase an FM wireless intercoms are not happy with them.

900MHz

900 MHz products were next to market. The 900 MHz radio frequency band is used only in North America, Australia, and Israel (for unlicensed use on intercom and cordless phones that is). When these products first came to market they communicated using analog technology. One problem with analog 900MHz products is that they allowed other people to hear your conversations if they had a device that is using the same frequency. Now some 900MHz products use digital spread spectrum which divides digital transmission across a range of frequencies so other devices can't eavesdrop on your conversations. Spread spectrum also enables multiple channels of communication at the same time with the same network of intercoms.

One 900MHz system even creates a private network when you first set up your intercoms so other devices cannot listen to your conversations. Even other units of the same brand cannot listen to your conversations unless they are taught the same security code that your wireless intercoms use (that can only be done by having access to one of your units).

2.4GHz

After 900MHz came 2.4GHz frequency devices. 2.4GHz is used worldwide (Including in North America, Australia, and Israel). All that is available for wireless intercoms in this band is

expensive production-type intercoms, cordless phones with an intercom feature, or possibly video intercom systems.

But one of the problems with 2.4GHz wireless devices is that this is the frequency range used by WiFi wireless data networks (802.11B/G) in residential and business.

If you have a wireless connection to the Internet or other PCs in your house or business, this network could interfere with your wireless intercom system. However, the majority of people don't experience any problems in mixing 2.4GHz systems since many 2.4GHz devices use spread spectrum technology, which means they are changing frequency every second or less. The range will typically be less for 2.4GHz than for 900MHz since lower frequencies penetrate solid objects better.

5.8GHz

Then came 5.8GHz products. So far, about the only product available in this frequency range are cordless phones. There are no known wireless intercoms in this frequency. 5.8GHz devices are totally compatible with 2.4GHz and other frequencies so no problems should be experienced in mixing these.

DECT

DECT stands for Digital European Cordless Telecommunications, or Digital Enhanced Cordless Telecommunications. This technology started in Europe but has been adopted in North America as a variation of DECT, called DECT 6.0. It uses a slightly different frequency range (1920-1930 MHz); which makes the North American technology incompatible with systems in other areas, even from the same manufacturer. DECT has almost universally replaced other standards in most countries where it is used, with the exception of North America.

The cost of certifying DECT equipment is currently very high since a significant debt was incurred by frequency coordinator UTAM, Inc. in clearing the DECT band for unlicensed use, and that debt must be recovered. Once all of UTAM's obligations have been paid off, UTAM will dissolve and all clearing fees will be eliminated, but that is currently limiting the development of DECT intercom equipment. You will find some DECT cordless phones with intercom functionality.

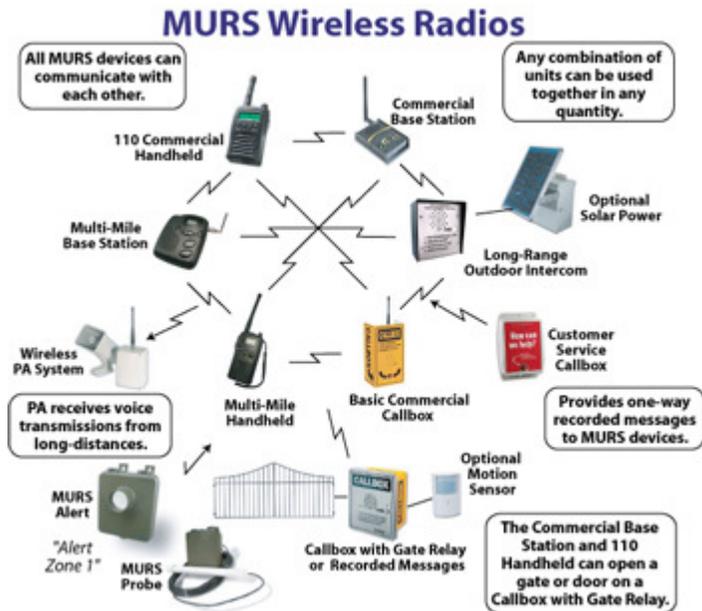
MURS - 150MHz

There are five frequencies in the 150 MHz radio spectrum that are called the MURS service. MURS stands for Multi-Use Radio Service. This service was created in 2000 for use in the United States. MURS is a short range (can be several miles) service that uses the VHF (Very High Frequency) radio spectrum.

The FCC does not require users of products for these bands to be licensed, but it does impose strict regulations on the types of products and services that may be supplied to consumers.

Previously the FCC came out with the Family Radio Service (FRS) in the 462 and 467 MHz spectrum in which you can find handheld units, but no intercom systems based on this service.

MURS is similar to FRS but it has a power increase of four times that of FRS radio. And unlike FRS, you can add a larger or external antenna to improve range. If you want to put an antenna on top of your building, you can do it with MURS. Some antenna manufacturers claim an external antenna can increase the effective radiated power of a transmitter by a factor of 4.



These MURS radio intercoms can transmit several miles, and further with an external antenna. These units are not secure, but there are fewer systems in use and few devices outside of a scanner to intercept this frequency.

MURS will not be approved for use in Canada until June of 2014.

Power Line Carrier Systems

Power Line Carrier (PLC) intercom systems communicate using a very low FM frequency over your building's existing 110 volt AC house wiring that supplies power to receptacles and light fixtures. These intercoms are typically passed off as "wireless" intercoms since you do not have to install wiring between locations even though they communicate over wire. You just plug them in anywhere you have an outlet and they're ready to go.



While they sound like the ideal solution for basic applications, most users are typically not happy with these intercom systems, at least not for long.

These units are very susceptible to interference from both inside and outside the house or business. You may experience buzzing, poor audio, or they may work perfectly well for you. They are very low featured, but they are also very inexpensive. These systems are not recommended for most applications. Sometimes they work fine until you plug in something like a laptop computer nearby to charge or some other new piece of electronic equipment like a high definition flat screen TV. Then you get nothing but static. There are lots of devices that could interfere with these intercoms, especially in a business environment.

The other issue these intercoms have is that they don't always work in different parts of a house or business. The electricity in a building comes in as 220 volts and is then split into two phases

of 110 volts each. Half of your building will be on one phase and the other half on the other phase. The intercom signal traveling over one phase doesn't always make it to the other.

Choosing a System For You

So finding the right wireless intercom system for your business really depends on your application and the wireless products you are already using. It also depends on the wireless products those around you are using. When it comes to using wireless products, there is no guarantee that you won't experience some type of interference, so look for a vendor who has a guaranteed return policy if the system you choose doesn't work for you. Then you really can't lose by trying a wireless intercom system.

What to do Next?

If you still have questions about choosing the right system for your business, call IntercomsOnline.com at 888-298-9489 to request a free consultation with one of our product experts. We'll listen to your communication problem and then try to come up with the best solution for it, whether that's products we offer, or those we recommend from somewhere else.

We've helped businesses save thousands of dollars of expense from choosing the wrong intercom and we've helped countless businesses to improve their communication, and therefore their productivity. We're pretty sure we can help your business too. Thanks for reading this guide!

Partial List of IntercomsOnline.com Customers

1&1 Internet, Inc. Amazon.com BASF, The Chemical Company Boston Scientific CITGO Petroleum Costco Federal Aviation Administration GAP Inc. (gapinc.com - clothing) Georgia-Pacific Harley-Davidson Financial Services, Inc Internal Revenue Service (IRS) Level 3 Communications Mayport Naval Station National Park Service Ohio State University Pepsi Bottling Group Sea World Florida The Boeing Company Toshiba America Information Systems U.S Coast Guard U.S. Army Special Operations U.S. Forest Service (USFS) U.S. Secret Service USAF Space Surveillance Veterans Administration Yosemite National Park Service	Alaska Dept of Fish and Game American Embassy Bayer Cropscience Chevron Products Company CN Railroad Dow Chemical Federal Bureau of Investigations (FBI) General Dynamics Goldman Sachs Harvard University Jos. A. Bank Clothiers, Inc. Lockheed Martin Monsanto National Weather Service, Alaska Owens Corning Pine Bluff Arsenal Social Security Administration The Ritz-Carlton Toyota Technical Center U.S. Air Force U.S. Army, Camp Marmal, Afghanistan U.S. Navy University of Iowa USDA Forest Service Virginia Tech University Zatarain's	Alcoa Fastening Systems Ball Corporation Bausch & Lomb Chevron Corporation Coca-Cola Enterprise Bottling Co. Fairchild Communications Frito-Lay, Inc General Motors Powertrain Global HQ Gorton's IKEA Furniture Kohl's Distribution Center Marriott Hotels NASA Goddard Space Flight Center Nissan Trading Corp Parker Hannifin-TechSeal Procter & Gamble Target Corporation The Wackenhut Corporation Tyson Foods, Inc. U.S. Army U.S. Border Patrol U.S. Post Office University of Michigan Verizon Whole Foods Market
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What Our Customers Are Saying

"You guys Rock. The product [Commercial Base Station and Callbox XT] works great for going through a steel bridge and into a steel container box. You will be part of our orders from now on. Plus its always fun to help fight piracy! Just so you guys know, the comm box on the bridge is manned by the security forces and the big call box is in the conex box that houses the security UAV that flies off when we have a suspected pirate." Daniel Morehead, Northern Defense Industries, Alexandria, VA

"I want to thank you, and your company, for this invaluable service you continue to provide. You have been much more than just "normally" available and supportive. As soon as we realized that a device wasn't responding like it had been, I was confident in the knowledge that you would be available to answer questions if they were within your realm. That is a valuable service, and all too often missing from website service and support from other companies. We appreciate it-and you! Thanks again." Robert Steinbomer, Steinbomer and Associates, Austin, TX

"We chose your company because the description was in detail, and price was right. Keep it up." Jean Tinant, Palace Hotel, San Francisco, CA

"Your customer service and user-friendly website have been fantastic. I appreciated all the info on the different systems and the 'tutorials' to help me decide which system would meet our needs." Stephanie Molina, Southwest Child Care and Education Centers, Albuquerque, NM

"After very friendly and informative conversation I had with your representative on Wed evening (9 Apr 08) after your normal hours of operation, I chose to order from your company. I like to know there are real people behind an online store before actually ordering. And in your case, it was a person with real technical knowledge - somewhat of a rare thing in this day and age." Thomas Jester, Oakhurst, NJ

"I ordered the product and it arrived two days later. Well packed and worked as advertised." Tom, Iowa

"You guys were great, called in with one question got my answer, easy to order and quick to ship. Very good experience. excellent product." Russ Crawford, Lake Tahoe, CA

"Great customer service, easy to order, received item quickly! Thanks!" Maru Ellen Brown, Blue Island, IL

"Wonderful purchase and customer service was beyond helpful. I expressed my situations and concerns and the told me what product would be best. Radios are installed and do everything promised. A+" Christine Davis, Bellaire, MI

"Totally satisfied with the equipment; it exceeds my expectations... Would I buy from IntercomsOnline again? You betcha I will!" Kenneth Cook, Belmont, CA

"Before ordering a pair of intercoms for elderly relatives, we called customer service and got excellent help and the advice we needed. Ordering was easy, product arrived as promised, and the product is excellent." Belmont, CA

"You guys were great, called in with one question got my answer, easy to order and quick to ship. Very good experience. excellent product." Russ Crawford, So. Lake Tahoe, CA

"Great place to buy intercoms. IntercomsOnline.com had great phone help when we were designing a not off the shelf system. The support staff made sure that they understood what I was trying to do then went to research the problem and then got back to me multiple times to make sure that they were solving the right problem. The products arrived very quickly in perfect shape. I would recommend IntercomsOnline.com to anyone who is looking for intercoms. I will certainly use them again. The Call Forwarding Controller was exactly what I needed. It did take a bit of time to work out the technical details but everything worked like a charm with the help of the support staff. I now have my front door bell connected to my phone which allows me much needed freedom." Brantly Goodwin, El Prado, NM

"You provide great service. I'll recommend your company to anyone who is in need of an intercom system." Vic Valcoff, Thorold, Ontario, Canada

"Dealing with IntercomsOnline.com was a pleasure..." Melissa Page-Fockler, Humbird, WI

"Product was exactly what I needed. It was shipped promptly and works perfectly." David Klausmeyer, Houston, TX

"I am so glad I found your site, with the 45 day return policy, etc. All the items were shipped very promptly, well packed and so easy to set-up! Thanks again for your help." Ken Reynolds, Greeley, CO.

"I received the product without any problem, in good condition and in a decent time...Definitely I will buy again..... Thanks a lot for your excellent service." Maria Pineda, Miramar, FL