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# Introduction to SMB Phone Systems

Choosing a business phone system is one of the most important purchasing decisions your business can make. The telephone is one of the easiest ways to communicate with customers, vendors, and partners--and it should be the easiest way for them to reach you, as well. Your callers shouldn't have to face incorrectly routed calls, disconnections, or a bewildering array of automated options.

You'll need to weigh many factors when shopping for a business phone system. For example, your system should have enough capacity to handle your current call volume while leaving room for future growth. Also, you'll want to consider the system's compatibility with your existing equipment and features like voicemail, music on hold, and conferencing.

Traditional business phone systems come in three basic configurations: key system units (KSU), Private Branch Exchange (PBX) systems, and KSU-less phones. The type of system you choose will depend on how many stations (extensions) you need and what features you require.

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## Types of Commercial Phone Systems

### **PBX systems**

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If your company has more than 40 employees, or if you need advanced functionality, PBX systems are the best solution. PBX systems use dedicated telephone hardware and switches to handle and rout calls. They are traditionally stored in a telecom cabinet at your office; however, the technology has progressed to the point where a powerful PBX for a small company can sit unobtrusively on a desk.

Most PBXs come standard with all the office telephone features you might want. In addition, they are totally programmable, so they can support even the most complex implementations. You'll pay a premium for this flexibility, but in many cases the price difference between a PBX system and less adaptable solution is smaller than you might expect.

## Key systems

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In the 5 to 40 employee range, key systems are more typical. This type of phone system uses a central control device called the key system unit (KSU) to provide features that are not available with ordinary phones. For example, a central unit can allow users to make calls between extensions and prevent users from accidentally picking up lines that are in use. Modern key systems do provide standard business features, but may be less customizable in some cases.

While there are technical differences between key and PBX systems, the distinctions to a user have become relatively blurred. Many key systems include features that were once available only on PBXs, and some systems operate internally as either a key or a PBX depending on the software that is installed. The term "hybrid" is often used to describe business phone systems that resemble both key and PBX systems.

Both key and PBX telephone systems require professional installation and maintenance. All outside telephone lines must connect to the KSU or PBX cabinet, as well as all inside extensions. You will almost always be able to use existing phone wiring. Don't expect to continue using your existing phones, however. Unless the phones you have are relatively new, they probably won't be compatible with the central unit and you'll need to purchase new handsets.

## KSU-less systems

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If your company has fewer than 10 employees, you may be able to meet your telephone needs with a KSU-less system. For a much lower initial investment, KSU-less phones are designed to provide many of the features of smaller commercial phone systems in a decentralized manner. The phones themselves contain the technology necessary to allow them to communicate with each other without requiring a central cabinet.

KSU-less systems are not permanently wired into your office. These phones can easily be unplugged and moved to a new location or sold. This allows you to treat a KSU-less system like any other business machine rather than as a permanent investment in your premises.

Make sure any KSU-less system you are considering is compatible with the type of telephone wiring used in your office, as well as accessories such as answering machines and modems. Because they are so inexpensive, KSU-less systems are not usually sold or supported by telecom vendors - you will need to do the shopping, installation, programming, and maintenance yourself. And they are also more susceptible to "crosstalk," a problem in which separate conversations bleed into each other. With hybrid key systems dropping so far in price, KSU-less systems present more risk than they are worth for most businesses.

## VoIP phone systems

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In addition to traditional business phone systems, there are systems that use voice over the Internet protocol (VoIP) technology to let you make and receive phone calls using your broadband Internet connection and special IP enabled telephones. For some businesses, VoIP systems can provide significant cost savings and other benefits.

There are two varieties of VoIP business phone system. An IP PBX is a piece of hardware which is installed at your office and functions much like a traditional PBX or key system. A hosted business phone system, on the other hand, processes calls at a data center before forwarding them to a direct extension at your office or other location.

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## Sizing Office Phone Systems

When buying an office phone system, your primary concern must be to find a system that is the right size for your firm. Knowing your requirements in advance and understanding system size constraints will help you negotiate with vendors. There are two main factors that determine the size of the system you need:

- **Lines.** Also called trunks, lines indicate the total number of outside phone lines used by the company.
- **Extensions.** Extensions are needed for every device within the company that connects to the phone system. Most of the extensions will be for telephones. However, fax machines, credit card terminals, modems, and any other equipment that requires a phone connection must also be tallied.

In key systems, system size is usually indicated as a combination of lines and extensions. For example, a 12 x 36 system accommodates up to 12 lines and 36 extensions. Most PBX systems define size in terms of "ports," which indicate the maximum number of connections that can be made to the system. This includes outside lines and inside extensions, as well as phone system accessories such as voicemail or automated attendants.

Even if an office phone system can handle your current phone traffic, make sure it can also accommodate future growth. The ideal system will expand in a very cost-effective manner. PBX systems allow you to increase capacity by adding new cards that increase the total number of ports available. Some key systems expand simply by adding another cabinet identical to the first.

For planning purposes ask how much it will cost to add extensions, be sure to specify different numbers e.g. 10 vs. 20 vs. 50 additional extensions. Learning the exact method of expansion is not important - what is important is that expansion is easy and affordable.

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## Features of Office Phone Systems

Office telephone systems can be equipped with literally hundreds of features for switching calls and directing traffic. Dealers estimate, however, that most companies use only 10 percent of their available telephone features. Instead of comparing features on a one-to-one basis, examine how you use your phone system, then search for and evaluate only those options that will improve your office workflow.

Some of the most popular features come standard in many office telephone systems.

- **Auto-attendant** is a recorded message that answers your phones and instructs callers how to reach the person or department they are looking for. If you have a high volume of calls, this may be important, or you may value having a live person answer every call.
- **Conferencing** features can vary widely. Consider how often your staff needs to make conference calls, and how many different people need to call in. If the conferencing features you need aren't readily available, there are other options for conducting teleconferences that you can purchase separately.
- **Music-on-hold** is fairly self-explanatory - in most systems you simply plug in a source of music.
- **Dial by name, dial by extension, and dial from directory** services help callers find the people they need to speak with.

You'll also be able to choose different features for your phone sets. **Display phones** have a small screen that shows information such as the name and extension of an internal caller, the duration of call, and in some cases, caller ID. **Speaker phones**, a familiar fixture in many conference rooms, are now standard on most new hand sets. Speaker phones can be half-duplex, which means that only one person on the call can be heard at a time, or full-duplex, which lets both parties talk simultaneously, like a regular phone. Some phones also have a 'listen only' mode for speaker phone, which is useful for monitoring a conference call or while on hold.

With more feature-rich office telephone systems, **voicemail** may be included as part of the package. However, it's a fairly expensive option if not included. If you already have a voicemail system, talk to your vendor about its compatibility with the system you are considering.

Although having the right features is important, even more critical is making sure they are easy to access. Because most employees devote very little time to learning how to use a phone system, you should make sure that using the most common functions is extremely simple and intuitive.

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## Advanced Applications

For companies who make more extensive use of their phone system, modern corporate phone systems can offer some significant benefits.

**Find Me Follow Me**, also known as "follow me anywhere," helps both your employees and your callers. By routing incoming calls to wherever your employees are--whether on the road, working at home, or at a remote location--automatic forwarding increases the likelihood that callers reach the person they need. There's no need for callers to make a second or third call and your employees avoid returning to an overflowing voicemail box.

**Unified Messaging** enables your corporate phone system to handle phone calls, voice mail, e-mail, instant messages, video conferences, faxes and other types of communication.

**Computer telephony integration (CTI)** covers a wide range of applications that connect your computers to your corporate phone system. One example is one-click dialing for outbound call centers. Employees can use their contact management applications to place calls without manually dialing the number, thereby reducing errors and time per call. Other CTI applications handle incoming calls. Inbound calls can be identified by caller ID and routed to the correct representative before they are even answered. Then callers' account information can be displayed automatically (screen pops) when an employee picks up.

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# Pricing for Phone Systems

The watchword when buying new phone systems is total cost of ownership (TCO). Simply buying the lowest price system can easily get you into trouble: more reliable, expandable systems do tend to cost more per user up front - but the savings you will see in the long run make it worthwhile. In addition to being able to add more users as your company grows, you should find out how easily your equipment can be upgraded as new phone system features and technologies are released.

Estimating costs for a complete new telephone system is very difficult: costs are dependent on system size and features and can quickly climb into the tens of thousands of dollars. Key systems and hybrids can range from \$350 to \$1000 per user, depending on the features you select. Larger PBX systems, prices start at around \$450 per user, but usually wind up more in the \$1000 per user range. There are significant economies of scale: very small offices will find it hard to stay under \$1000 per user for any system, and companies with 100 or more employees save considerably.

KSU-less systems generally cost between \$130 and \$225 per office telephone. While the savings may seem attractive, this option is really only viable for offices of 10 or fewer people. If a KSU-less system fails to meet your needs you'll have to upgrade your system and the savings you thought you had will vanish. You'll also have to dedicate some of your staff time to set up and maintain the new phone system.

**When comparing phone system prices you'll need to look at the following five factors:**

## The base system

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The central base system, or cabinet, controls and oversees the entire phone system. This price differs between systems and rises as cards and accessories are added. A small central unit can cost as little as \$1,000, with the price increasing considerably to the tens of thousands of dollars for larger systems. The base system will be the main limiting factor for your phone system both in terms of features and expandability.

## The actual phones

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Most new telephone systems can be equipped with several different types of phones. The least expensive may cost less than \$150, but can make accessing features very difficult or provide less than optimal sound quality. Most mid-level handsets sell for \$180 to \$300 per unit.

On the other end, some "executive phones" sell for many times the standard price. These phones can make using the system slightly easier, but are often just flashier - the main result of larger screens and more buttons is often increased profit for the dealer. Receptionist stations are also more expensive, but they bring important features for the person at the center of your new phone system. Most businesses will buy a mix of phones.

## **Phone system add-ons**

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You'll also need to purchase accessories such as voicemail, music on hold, and CTI applications if they don't come built in to your system. These features can easily tack on hundreds of dollars to your purchase.

Many manufacturers sell equipment bundles that can save you quite a bit. These typically include the central control unit, several office telephones, and voicemail. They are sold in varying sizes - your vendor can help you choose a bundle and then add on any other equipment you need.

## **Wiring and installation**

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Installing wires in an unfinished building is fairly inexpensive. However, installing wiring through already finished walls can add quite a bit to your total cost. If you're in a location with existing wiring, make sure you have the dealer inspect it so you can re-use it if possible.