

CS600™



MANAGERS GUIDE TO MULTITONE'S WIRELESS TELEPHONE SYSTEMS



Introduction

Wireless Telephone Systems (WTS) are a new tool to improve business and government operations and customer service. This guide will provide background information on WTS technology, its application and benefits. This will help in the choice of the type of system and features that are right for your organization's needs.

What is WTS?

WTS is a digital communications technology, with over 70 million users worldwide. It is simply a phone system without wires. It provides enhanced personnel mobility to improve your organizations communications, efficiency and protect your business relationships. WTS solutions ensure that its users are always available to talk to customers or business associates at any time and to "manage on the move". Time is money - don't waste it.

Who uses WTS?

WTS is used in the business environment, by all market sectors both public and private. These market sectors include healthcare, manufacturing, processing, retail or any industry. In fact anywhere that an organization will benefit from improving its commercial performance and customer communications by allowing personnel to "manage on the move".

There are several ways in which WTS can improve an organization's communications:

- There is a sales benefit if a business relies on personnel being available to sell or support its products.
- Organization communications become more efficient. The "walk and talk" and "manage on the move" statements become a reality.
- There is a cost benefit from being available to answer calls promptly, and saving the cost of a returned call.
- Rapid response through higher communications mobility can improve response time whether it is for improved customer service or to respond to an emergency.

How does WTS save time and improve response?

Everyday people call a switchboard or direct dial number and are unable to contact the person they want, in sales, service, support or management. The call is often unanswered, may go to voicemail or a colleague answers the call and leaves a note on your desk.

Every call that is not answered may be a lost customer. Maybe the next time they want to do business they'll try someone else. Callers prefer not to talk to answering machines or voice mail systems.

Cost Savings

There is a dollar cost to return the call. Every call made to return a call has a value, and the total can be significant. Remember, 60% of calls fail to reach the intended recipient.

What gains are possible with a WTS system?

Create 30 - 60 productive minutes per user per day:

5 interrupts @ 3 minutes:	15 minutes
3 call backs @ 10 minutes:	30 minutes
Potential time saving:	45 minutes
Daily saving for 20 users:	15 hours

Value added potential of new productive time = \$ per user per week.

This simple check on productive time can be used for any business evaluation and will prove cost effectiveness of mobile communications.



What types of organizations that can benefit from WTS?

Many people have experienced the time delay caused when phoning a store to ask if they have an item in stock. The delay is caused because the sales person has to leave the phone to physically check if the item you require is in stock. With WTS, the salesperson can “walk and talk” asking the customer questions about his or her possible purchase and even offer other alternatives. The customer gets an answer to the question and the company increase the chance to sell products and provide superior service. The benefits apply to store managers, security personnel, maintenance staff, in fact anyone who is likely to take a call from a customer. Every conversation with a customer is an opportunity to sell.

By using WTS handsets in groups, a call can be directed to any salesperson that is free. If all the sales people are busy you can direct the call to a manager, supervisor or the telephone operator. Retail is all about customer service and talking to people.

Manufacturing and Processing

Manufacturing has a different set of problems. The manufacturing process must continue without a break to be efficient. Manufacturing can also be a noisy place to work. The key personnel will often be the team supervisors and managers and the maintenance personnel.

Food processing is dependent upon refrigerators and freezers, heating and cooling equipment, and the processing lines all working efficiently often on large sites. With a WTS managers can be called anywhere in the factory, go to the location of the problem while talking to the person who reported the problem. They may need to call for assistance or spare parts.

All of this can be managed “on the move”. Once at the problem site, they are able to deal with the situation and if necessary call a support center or manager. Need to talk through the problem with the equipment supplier? The problem solvers are on the spot. Maintenance personnel are required to keep machinery running without any stoppages.

When an alarm is flagged they have to attend the machine, identify what’s wrong, maybe find a phone, ring a supplier, go back to the problem etc. With WTS it is possible for an alarm to be sent directly to a single maintenance engineer, team of engineers or engineers and supervisors, as a text message, and possibly prevent any serious damage to machinery or personnel. Line managers and supervisors need to ensure that their workers have the necessary support, or that they can be available to manage a problem quickly and efficiently.

One call in time that prevents a stoppage to manufacturing, or damage to expensive machinery, can cost justify the provision of mobile handsets. Line supervisors and managers will all benefit from having mobile communications. Any other manager, supervisor or mobile personnel, needed to resolve the problems on the line or in the product process, can easily contact them.

Resolving problems quickly is both time and cost efficient. No need for personnel to chase a manager, use an intercom or PA system. With a WTS phone personnel can be contacted quickly to deal with the problem.

How does WTS fare in noisy environments and where both hands are needed for work?

It’s very noisy in many industrial environments. WTS systems can be configured to work under such conditions. WTS handsets can be set to increase or decrease the speech volume. Other user controls, such as vibrate alert, are available to ensure that the quality of speech is at its best all of the time and it suits the work place.

Handsets can also be equipped with a standard headset, or ear defender headset. With the “Auto answer” feature switched on, calls will automatically be answered and terminated leaving both hands free to work.



Hotels and leisure

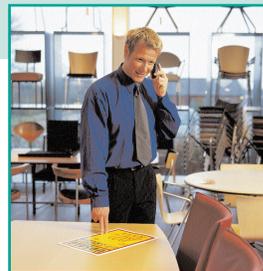
The hotel and leisure market depends on quality of customer service-meeting and greeting customers, comfort, good facilities and an attractive and pleasant environment are a requirement. Behind the scenes are the service and maintenance staff, supervisors and managers, chefs and service personnel, who have to be efficient and effective to retain the necessary levels of customer service.

Even the smallest problems need to be solved quickly, and good communications are the key. A large hotel will have large numbers of air conditioning units, refrigerators, freezers and other electrical and mechanical items, essential for the efficient running of a hotel. These machines are often connected to an alarm-monitoring product that will flag alarms to a PC for the hotel to attend to. Even small delays in attending alarms can result in damage to food, machinery, air conditioning that could have been prevented by prompt action.

Maintenance personnel are required to keep these running without any stoppages. When an alarm is sounded or problem reported they have to attend the machine, identify what's wrong, may be find a phone, call a supplier, go back to the problem and move quickly. Advanced WTS systems provide a messaging capability, making it possible for the alarm to be sent directly to the maintenance engineer as a text message on their handset so as to alert them immediately so as to reduce downtime and possible damage to machinery. Fire alarms could also be linked into the alarm system to assist with the management of any evacuation of the premises.

Supervisors and security require good communications. Private or cellular radios are often used in hotels and leisure facilities. Often such radios cannot easily be linked into the communications systems. Using a WTS with messaging capability alarms can be converted to messages and sent to single users or teams of users. The response to any alarms is improved and the communications between managers and supervisors is instant, as they don't have to find a phone.

More advanced WTS systems can also connect to the local IT networks and allow anyone with access to a PC to send a message to a user or group of users. When managing critical situations, evacuations and emergencies this can be an essential tool if the voice communications channels are blocked.



How does WTS help in providing customer service and support?

Customer service and support workers are often desk based. If this service requires that personnel need to leave the desk to check stock, parts or be away from the desk for some of the working day, then mobility solutions solve the problem. Customers expect to talk to another person, ask the question, get an answer and carry on with business. A poor quality customer service interface WILL lose you customers. Voicemail and auto-attendants do not provide a solution to mobile workers.

Does My Buildings Design Affect Coverage?

A building that has several levels, with steel re-enforced concrete floors is likely to take more base stations. The radio waves from the base station will go up through the ceiling above and down through the floor below. A typical medium-sized three floor building with an open plan office and a shop may only require three base stations on the ground floor, two on the second and two on the third. Each customer site is different and it is not possible to quote the number of base stations required without a survey by a professional.

The open areas would have four voice channels available. Lined areas would have eight voice channels and the cross hatched areas would have twelve voice channels. Any location where there is high radio traffic can be easily identified and additional base stations added to the system. It is unusual for this to be required. The use of on-site mobile communications does change the working habits of the users over a period of time.

A typical base station in a single floor open office would cover up to 1000 feet from the base station with no walls or other barriers. That is the equivalent of covering some 221,481 square yards of space.

Other frequently asked questions about WTS

Q. What is the level of radiation from a typical WTS handset?

A. The level of radio energy from a WTS handset is a very low power (10 thousandths of a watt) as compared to cellular telephones that may be up to 2 watts of radio power or 200 times greater in strength.

Q. Will it interfere with my existing wireless products and do I need a license?

A. A good WTS system will have been approved to the applicable standards for WTS products, have the appropriate IC certification and will not interfere with sensitive electronic or electrical equipment. Other low power electrical or electronic equipment should not interfere with the operation of the mobility system. The product should also be license free.

Q. Will the installation interfere with my existing telephone system?

A. Installing the good WTS will not interfere with your existing system. It should be simply connected to your existing analog extensions.

Q. Can I use my mobile handset in the same way as my desktop handset?

A. All of the features currently available from your desktop handset should be available on your mobile handset. Frequently used features such as call forwarding, camp on, conference calls and others that may have several digits or characters to activate and may be stored in the handset telephone directory.



Q. If the radio power is so small, how many base stations will I need and how important is this survey?

A. Every site has a radio survey that should be carried out by qualified radio engineers to plan the number and location of every base station required. This will ensure radio coverage where it is needed. This could include the parking lot, basement, rooftop or any other difficult to access location.

Radio waves will pass through almost any object, but each object will decrease the strength of the radio waves. This could be a wall, floor, racks of goods or any other object on the premises. This is why it is important that the radio survey is carried out correctly. Each radio base station has a range of approximately 1000 feet around the base station and has 4 voice channels. The field of each base station will overlap every other base station by around 50%. Imagine a circle with another circle drawn half way across the first.

The survey ensures that the radio cover from every base station overlaps every other base station. A typical store with open plan shelves or a warehouse may only need two or three base stations.

Q. Will the installation, training and testing take long?

A. The installation and testing will normally take no more than two working days. On a small system this may include the training of the users.

Q. Do I have to stand still when I take or make a telephone call?

A. When the wireless system is being planned, a radio survey will be carried out that ensures you have radio coverage everywhere that is needed. This may be in basements, roof cavities, and parking lots. A professional radio survey will ensure good radio coverage and the ability to walk and talk throughout the site.

Q. Can I use my mobile handset at home?

A. The private mobile telephone is typically designed for use with the installed private wireless base stations. It cannot be used outside of the radio coverage provided at the customer premises.

Q. Does it cost any extra to use a private mobile telephone?

A. The private digital wireless telephone is part of a telephone system. There is no call cost associated with calls to other on-site mobile users, or desktop telephones. Local, national or international telephone calls may incur charges associated with your telephone service provider and long distance carrier.

Q. My pager or mobile cell phone will not work in some places. Will my private wireless handset have the same problems?

A. Every wireless installation is carefully surveyed by trained wireless professionals to ensure that the radio base stations are strategically located to provide “walk and talk” communications at all locations required.

Q. Can I use my handset in damp, cold or other environments that are not normally recommended for mobile handsets?

A. There are ranges of handsets for use in the office, industry or manufacturing environments. The handsets can be water resistant or approved for use in environments with explosive liquids, gases or dust. A holster should protect the handset against damp or cold.

Q. Can I use my desktop telephone with my private mobile telephone?

A. A mobile telephone may be used in parallel (bridge connection) with your existing analog telephone or without it. Calls to your extension number will ring both telephones and you can answer with either phone. If you need to “walk and talk” then pick up your mobile phone, go “off hook”, hang up your desk phone and go about your business

Q. How easy is it to add mobile telephones?

A. All you need is a spare analog port on the PABX and a spare port on your radio server. One pair of wires, register handset and its working.

Q. Is a WTS secure from others listening to my conversations?

A. The wireless protocol utilizes frequency hopping technology that is secure to ensure privacy. Each radio server and each handset has a unique identification number, similar to your credit cards. This information is held by the system to ensure no one can intrude.

Q. How many users can I have on a WTS system?

A. This depends on which system you have installed. There are different systems available and there should be an upgrade path from one to the other.

Q. How easy is it to remove handsets from the WTS system?

A. If you require new handsets or you have a damaged one, it is simply unregistered from the system using the administration software provided. Alternatively your supplier may provide a remote service that only requires you to follow a few simple instructions to register your new handset.

Q. Is my investment protected against rapid changes in communications technology?

A. Good wireless communication systems should use the recently allocated 2.4GHz spectrum for communicating. The IC has allotted this spectrum for use by mobile wireless communications for the foreseeable future. The system can also link with modern IP telephone systems including Cisco. This protects today's investment for tomorrow.

Q. Do I need a specially trained person to manage the system administration?

A. The system administration software should be very easy to use. The user guide should help you to carry out any handset registration or to make changes to mobile user data.

Q. What will I have to do to look after the system?

A. System administration may be handled by you or your system supplier. If you wish to manage your own system, you will be able to register new or replacement handsets. If you don't want to manage the system administration your supplier should be able to carry out work remotely or send an engineer to site. There may be a fee for this work. There should be no other administration duties that would normally be carried out by the user.

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