

Information Paper for Primary Schools

Using telephone style handsets in rooms as an integrated PA system

Many schools are currently upgrading their old telephones to new IP based digital key station systems which use the school's existing data network cabling infrastructure. Some vendors are aggressively selling the idea of schools of investing to install a complete telephone handset in every class room in a school using this method.

Some vendors also claim that their handsets can double as a PA system which covers all your class rooms by simply using the telephone system's "all page" feature. Before making a final decision we would encourage schools to consider the problems that may come about by taking this path. Once you've made the investment and then found a system does not meet your needs adequately, it's very expensive to ditch an ineffective system and then go back and install a PA system where one should have been installed in the first place.

Disadvantages of using IP based telephones for a PA system include;

1.) Poor sound quality and insufficient power.

While a 3 inch, 1 watt speaker hidden under the tiny plastic case of a telephone handset might be enough to be heard in a quiet clerical office, it's certainly nowhere near enough to cut through the noise normally experienced in a standard classroom populated with 25 noisy students. As a minimum, PA Matthews Audio systems provide a 10 watt, 5 inch 100v line speaker in a properly dimensioned PA speaker box mounted high in every class room.

While a handset might be able to produce a basic bell sound that can be heard, there's no way it'll be able to reproduce speech at a level or quality that can be clearly understood in a noisy classroom. Likewise music ends up sounding more like a distorted garble instead of something resembling a song, if played over a telephone handset.

2.) You can do only one thing at a time with the phone system.

A bell ring or PA page made through a phone system will not be heard on any handset which is involved in a call at the time the bell rings or the page takes place. Likewise if the system is used for evacuations or lock downs, none of the room handsets can be used for communications all the while they are also being used as a PA to signal the evac or lockdown- just at the very time you're likely to want to be able to have classes contact the office to either report lockdown or evacuation status in their rooms. Because our "Total School Communications" system *has two totally separate components* (the PA and the Intercom) this means you can *use both at the same time* with no problems.

3.) Reliability Problems.

IP based systems rely on managed data infrastructure to make sure things stay working. It only takes one untrained or unfamiliar staff member to unplug or mix up one blue lead at a campus distributor or in a class room to render a handset inoperable. Most Primary schools do not have a dedicated permanent staff member to manage their network infrastructure and so mistakes can - and do - occur frequently. And service calls to correct such faults are annoying and expensive.

PA Matthews Audio systems are totally "hardwired". Handsets are secured to the wall and cabling is professionally installed and hidden away. There are no plugs to come undone, no leads to trip over or become dislodged. The system stays working all the time, every time.

4.) Performance in a power failure.

Keeping an IP based telephone system working in the event of a power failure involves installation and maintenance of UPS (Uninterruptible power supplies) throughout the whole school – to power not just telephone equipment but also data hubs which the signals pass through.

A PA system is powered from one source only – the PA amplifier in the main office – and so uses only one single UPS unit located easily for maintenance and repairs.

5.) Cost and Life Expectency

Digital IP based key systems and handsets are generally recognised as having an “in service” life expectancy of between five and ten years in service before parts to maintain the system become unavailable and a major upgrade or replacement is needed.

The standard technology used by PA Matthews Audio in our systems has a minimum life expectancy of 10 years, with the average being 15 to 25 years before any upgrade or replacement is required.

The cost per handset of digital IP based systems is around \$120 to \$300 per unit, and around \$2000+ for the main equipment which can easily be destroyed by lightning strike and subsequently require expensive replacement. The cost per handset for our TCM systems is \$50 per handset, and around \$400 for the master station. In schools with a lot of rooms that adds up to a big difference.

Summary:

Naturally PA Matthews Audio recommend that you seriously consider installation of our “Total School Cominucations” system as this doesn’t suffer from any of these potential problems!

However schools who would still prefer to install an IP based telephone system with a handset in each class room should be encouraged to still install a completely separate PA system through the school as well, so as to make sure the PA meets all expectations and functions adequately for use as an evacuation or lock down signalling system.

Paul Matthews
2010