

The Art of Listening

The Correct Speaker For The Application

Probably the major opportunity available to a sound designer who is looking to achieve the maximum possible speech intelligibility from a system is to select exactly the correct loudspeaker.

Unlike home HiFi where almost every model is designed with the domestic living room in mind, professional loudspeakers are offered with countless different sets of characteristics which it is up to the designer to make best use of.

Of crucial importance is the dispersion pattern which tells us how sound radiates from the loudspeaker and it is probably the primary factor in deciding which model to place in what setting. Dispersion is expressed in degrees horizontal and degrees vertical.



Taking Measurements Using a Calibrated Microphone

It is this information that enables us to ensure that the sound from the speaker arrives in our listeners ears and hopefully avoids reflective surfaces in the building that are likely to be destructive of intelligibility. We addressed these issues at our project for St. Mary le Bow church where we installed Duran Intellivox speakers mounted on the side of the pulpit. The Duran Intellivox is possibly the ultimate expression of the type as it offers a steerable beam of dispersion controllable by digital processing. I was recently able to visit Bayeux Cathedral in France where a single five metre tall Duran speaker is being used to cover most of the congregation yet offering superb speech intelligibility at a distance of more than thirty metres.



A Duran Intellivox

This is a particularly tricky task if one is to minimise the negative influence of the prevailing room acoustic upon speech intelligibility.

Continued on next page:

Mains Borne Noise or Clicks, Pops & Bangs!

How often has an important service or event been disrupted by spurious noises from your sound system or by operating noise from equipment in the system;?

Have your loudspeakers ever been destroyed by these noises especially when switching on the system?

Have you experienced 'overvoltage problems' in your area; inexplicably blown lamps or fuses?

We are certainly finding that the frequency of these problems is increasing, especially in the London area.

In order to protect systems; a very welcome solution has been to install dedicated mains power distribution and conditioning units by Furman into our racks.. These units offer a

A significant added benefit is that by using truly professional grade components the



significant level of mains power conditioning and some units even offer a facility where a low voltage remote switch can be installed into a convenient location, say in a Vestry, and the system turned on silently whilst preparation is under way for the service.

installation becomes safer and neater by the elimination of extension boards, blocks and cables with all mains distribution being housed inside the equipment rack.

The Correct Loudspeaker—continued

Correct choice of loudspeaker enables us to achieve equally elegant and cost effective systems by applying the same scientific principles to all projects of all sizes and budgets. In this way every client can experience good intelligibility and gain before feedback.

This has been particularly satisfying in conclusion of our installation for St. Catherine's church near Winchester where we were able to provide coverage of almost all off the entire ground floor congregation with one carefully positioned AMIS column speaker (shown on the right)

This has meant that we can expect a higher standard of intelligibility and improved potential gain before feedback all for less expenditure and disruption of the beautiful 14th century interior.

We are pleased to reproduce a testimonial below:-

St Catherine's Church Littleton is an ancient foundation having a small church of irregular shape with a gallery and a capacity of usually full. We were in need of an unobtrusive high quality sound PCC to organise the installation.

After careful research and recommendation we engaged Peter

From the very beginning our relationship with him was highly pleasing. He came very promptly to make a full survey/diagnosis and quickly provided a detailed assessment of our needs and quotation for the recommended work.

The PCC had no hesitation in accepting Peter's quotation.

The work was carried out shortly after accepting the quotation and disruption and mess were minimal. We were especially pleased with the inconspicuous nature of the installation in that wiring and speakers were almost unnoticeable. Technically all went very well and the few teething problems, mainly associated with our existing radio microphones and loop system for hearing aids, were soon overcome with efficiency and tolerance.

Since the church is so small we frequently need additional accommodation in the shape of external marquees and Peter supplied and fitted an external speaker facility which is very effective and easy to set up.

The system has now been in operation for some eight months and we are entirely satisfied. Operation is relatively simple and can be carried out by non technical members of our congregation after minimal training.

Peter Kenny's work is to be thoroughly recommended.

Signed : Colin F.Fowkes, B.Sc. (Member of Littleton Parochial Church Council)

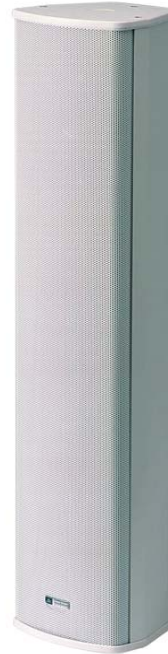
Caring for the Interior

So often we are pleased to find ourselves working in a beautiful listed interior where we must arrive at solutions that do not disrupt the aesthetics. and in many churches that involves a lectern that stands alone on a stone floor near to the congregation.

So how to install a reader's microphone?

The image on the right shows the lectern at St. Mary le Bow church, a grade one listed building, with a compact 5" microphone which we have adapted to operate by UHF radio so that wiring is not required. In this way gain before feedback and intelligibility of speech is maximized whilst achieving our client's requirement of an unobtrusive installation.

The AMIS CS420 loudspeaker successfully employed at St. Catherine's Church



Two further AMIS column type loudspeakers were installed to provide audio coverage of the gallery. This arrangement was employed to maximise distance from loudspeakers to microphones and to minimise distances from loudspeakers to listeners thus helping to achieve excellent gain before feedback and intelligibility.

been rebuilt in the 14th Century. It is about 120, for services the church is system and I was instructed by the

Kenny to do the work.

